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Hudson R.
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Potomac R.
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James R.
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Delaware R.
St. Lawrence R.
Lake Michigan
Lake Huron
Lake Erie
Lake Ontario
Lake Champlain
Lake Superior
Lake Winnipeg
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Baird

VIEW OF THE

VALLEY OF THE MISSISSIPPI:

OR THE

EMIGRANT'S AND TRAVELLER'S GUIDE

TO THE WEST.

CONTAINING

A GENERAL DESCRIPTION OF THAT ENTIRE COUNTRY;

AND ALSO,

NOTICES OF THE SOIL, PRODUCTIONS, RIVERS,

And other Channels of Intercourse and Trade:

AND LIKEWISE OF THE

CITIES AND TOWNS, PROGRESS OF EDUCATION, &c.

OF [illegible] AND TERRITORY.

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"Westward the star of empire takes its way."—BERKELEY.

PHILADELPHIA:
Published by H. S. TANNER.

1832.

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INTRODUCTION.

THE VALLEY OF THE MISSISSIPPI is a portion of our country which is now arresting the attention not only of our own inhabitants, but also those of foreign lands. Such are its admirable facilities for trade, owing to its numerous navigable rivers,—such the variety and fertility of its soil,—the number and excellence of its productions,—the genial nature of its climate,—the rapidity with which its population is increasing,—and the influence which it is undoubtedly about to wield in giving direction to the destiny of this nation,—as to render the West an object of the deepest interest to every American patriot. Nor can the Christian be inattentive to the inceptive character and forming manners of a part of our country whose influence will soon be felt to be favourable, or disastrous, to an extent corresponding with its mighty energies, to the cause of religion.

To give a brief, and yet satisfactory, account of this vast country, its resources, history, manners and customs of the people, political sub-divisions, cities, colleges, &c., is the great object of this work; in which the author has studied to embody in as small a compass as possible, such information as he deems most desirable and useful to the community. Whether he has succeeded in this effort, it is not for him to pronounce an opinion. He can only say that he has honestly endeavored to do what he could.

There are three great classes of men for whose benefit the author has endeavored to prepare this book.

1. For those who desire to remove to the Valley of the Mississippi, and there cast their lot. Such persons, whether natives of Europe, or citizens of our Atlantic states, are, of course, solicitous to know as much as possible about that vast region to which they expect to remove. To procure such information, and in such a compass that it could be soon read, has hitherto been almost, if not quite, impossible. Until Mr. Flint and Mr. Darby, and especially the former, published their valuable works entitled the "Geography and History of the Western States," and a "View of the United States," but little had been published which attempted a systematic and extended description of that portion of our country. Some small works only, or such as had reference to insulated portions, had been written, if we except the books of travels in that region which had appeared, but which relate principally to the country along the Upper Mississippi, Missouri, Arkansas, and Red Rivers. These works are valuable, and will continue to be valuable: but they are too large, and too general in their contents, to be read by the majority of those who are about to emigrate to the West. Since a large portion of this book was written, a very valuable one has been published by the Rev. John M. Peck of Illinois, relating mainly to the states of Illinois and Missouri.

To furnish to emigrants such information as they desire, has been a primary object with the author throughout this work. And he hopes that he has succeeded, in a good degree, in the attempt. And if any reader finds that much is here wanting, he will also find much given, and perhaps as much as could be given within the limits prescribed. For the object has not been to make a large book, but a small and comprehensive one.

2. This book is designed to give information to those who purpose to travel, for amusement, health, or business, in the West. And this class is now far from being small. Every year, hundreds, and even thousands, are making a tour through the whole or

a part of the Valley of the Mississippi. And soon the American, who has not made the tour of the Valley of the Mississippi, will be considered a man who has seen but little of his own country. To know somewhat of the routes which lead to the West, the steam-boats, lines of stages, accommodations, cities and towns, curiosities, literary institutions, manners and customs of the people, &c. is certainly desirable to those who are about to journey to that portion of our country. Such persons will find, it is believed, much of that kind of information which they need in this volume. The accompanying maps, views of cities, and sketches of their environs, will be acceptable to such readers.

3. A third class, to whom the author entertains the hope that this work may be useful, is composed of those who desire to know more about the Valley of the Mississippi, although they do not expect either to travel or emigrate thither. There are thousands of such persons in our eastern or Atlantic states. For what intelligent and reading citizen can there be among us who does not desire to know well the geography, resources physical and civil, literary institutions, and the moral and religious condition of every portion of our country? Americans are the last people who can afford, or should desire, to be ignorant of their own country, or any portion of it. And surely we all must desire to know much of that portion of it to which so many of our friends and relatives have removed, and which may be the home of our posterity,—especially when is superadded the interest which the West is so intrinsically calculated to excite.

As a general remark, it may be said that our eastern citizens are but little informed with regard to the "Great West." The author has met with many men who are reputed to be well informed on other subjects, but who are remarkably ignorant even of the geography of the western country, and who make the most ludicrous mistakes when speaking of its rivers, the relative position of its states, and the distances of its

towns. It is but a few months since he saw a book, published in no distant city and within a year, in which the fact is gravely stated, that the Valley of the Mississippi contains about half a million of square miles! And this is but a trifling error compared with many that are daily made by men who ought, by this time, to know more about that part of our country.

Perhaps it will not be improper to give, in this place, a very brief analysis of this book, that the reader may know, at this stage, what he may expect to find in it.

The first ten chapters contain a general view of the Valley of the Mississippi. Beginning with a short description of the grand three-fold division of the territory of the United States, there follows an account of the great Central Valley of North America, of which the Valley of the Mississippi is a part. Then follows, in order, a general geographical description of the Valley of the Mississippi; its grand subdivisions according to its large rivers; its climate in reference to productions, its soil, minerals, forests, animals, &c. A short historical account is next given of the West, and reasons for expecting a very rapid and long continued increase of its population. Then follows a chapter on the climate of the Valley of the Mississippi in reference to temperature and diseases. This article was written by Dr. Daniel Drake of Cincinnati, and gives, in a very short compass, a more philosophical and satisfactory view of this subject than is to be found elsewhere. This chapter, which the Doctor kindly furnished at the request of the author of this work, will well repay any man for the half hour's time which he may spend in a careful perusal of it. No man in the country is better qualified than Dr. Drake, from long and close attention to this subject, to do full justice to it. An account of the Indians who still reside in the Valley of the Mississippi, and of the monuments of antiquity which abound there, follows next: and some notices of the manners and customs of the people of the West, and of their pursuits, close the general description of the Valley of the Mississippi.

From the eleventh to the twenty fourth chapter inclusive, there is given a geographical, statistical, and historical description of Western Pennsylvania, Western Virginia, Ohio, Indiana, Michigan, Kentucky, Tennessee, Illinois, Missouri, Arkansas, Mississippi, Louisiana, Alabama, Florida, and the regions west of these states and territories, up to the Oregon (or Rocky) Mountains. In the account of each state the following particulars are invariably given. 1. A brief outline of its constitution and government. 2. Its surface, soil, productions, facilities for trade by rivers, roads and canals, &c. 3. Cities and towns. 4. Education in common schools and academies. 5. The extent of public land. 6. Historical notices; and finally general remarks, which may be useful to emigrants, travellers, and others.

The remaining chapters give a full account of all the Colleges, Theological Seminaries, Medical Schools, Asylums for the Deaf and Dumb &c. Religious Denominations; Steam-boats; and the various routes by which emigrants and travellers may visit that country, expenses of removing, and of travelling to it, &c.

The above is a very brief and imperfect analysis of a book which has been written solely with the view of imparting some knowledge of a very large and interesting portion of our country. Should any one, upon perusal, find in it nothing which he did not know before, let him lay it aside quietly, and remember that it was not written for him, but for the less informed.

The author has had occasion, in preparing this work, to refer to Flint's Geography of the Western States, Darby's View of the United States, Peck's Guide to Emigrants, Breckinridge's Louisiana, William's Florida, Judge Martin's History of Louisiana, Marshall's History of the American Colonies and life of Washington, the American Almanac, the Quarterly Register of the American Education Society, Western Pilot, the Accounts of the Expeditions of Lewis and Clarke, Col. Long, Col. Pike, and the Travels of Mr. Schoolcraft, Mr. Tanner's map of the United States, &c. &c.

From these works he has obtained much information, and occasionally he has used the language of their authors, where from the alterations which he found it necessary to make, he could not give it as quoted.

But although much has been derived from works relating to the West, much more has been derived from personal knowledge, and from intercourse with western men. The author was born in the west, and has spent the greater part of his past life there, and has been familiar from his youth with many of the scenes which he has described. He has also repeatedly, within the last three years, travelled extensively in that portion of our country. In this book nothing is stated but what he believes to be correct, though he may have been misinformed on some points.

The maps which are placed in this book, the reader will find useful. They will be particularly so to the emigrant and traveller on account of the roads and distances, from point to point, which are delineated on them. Nevertheless if the reader has access to a large and well executed map of the United States, or a good atlas of the several states, he should avail himself of them; for the maps accompanying this work, although good, are small, and cannot give a full exhibition of every part of any state. The reader should desire to be able to trace every river, county, &c. which is mentioned in this book. Indeed no man ought, if he could avoid it, sit down to read a *newspaper* without having good large maps of our country, and if possible of the world, hanging up within the range of his eye.

During the last two years, a large number of letters respecting the Valley of the Mississippi, written by the author of this work, appeared in several of the newspapers.* Some portions of them, greatly modified, are introduced into this work.

* Particularly in the New York Observer, and the Sunday School Journal; the former published in New York, the latter in this city.

This is mentioned for the purpose of explaining the fact of a similarity between these letters and parts of this book.

In the first part of this work, the name, *Rocky Mountains*, is used to designate the mountains which bound the Valley of the Mississippi to the westward. In the middle and latter portions of the book, the reader will perceive that the title *Oregon* instead of *Rocky* is given to these mountains. This is the original name of these mountains, and should have been continued, instead of a name which is just as appropriate when applied to any other range of mountains. In some of the late English and French works on the geography of North America, the appropriate name of *Oregon Mountains* has been used instead of Rocky Mountains.

Philadelphia, September 1832. R. B.

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GENERAL VIEW

OF THE

MISSISSIPPI VALLEY.

CHAPTER I.

North and South America.—Brief Historical Sketch of the United States.—Their Boundaries and extent.—Three-fold division of the Territory of the United States.

The Continent of America lies between the Atlantic and Pacific Oceans, and is westward of Europe and Africa, and eastward of Asia. It stretches from 56° South, to about 80° North, and is upwards of 9,000 miles long, and from 1,500 to 1,800 in average breadth. It is divided into North and South America, by the Isthmus of Panama in 10° of North latitude. South America contains about 6,434,200 square miles, 12,839,374 inhabitants, and embraces the following States and countries:—Colombia, Bolivia, Brazil, La Plata, Peru, Chile, Paraguay, Banda Oriental or Montevideo and Guayana. Its mighty rivers are, the Amazon, Orinoko, La Plata, and Magdalena; whilst the lofty Andes and its branches are its mountains. North America reaches from about the 7th degree of North latitude to the shores of the Northern or Arctic Ocean, probably about the 80°. It contains 9,075,051 square miles, and has a population estimated at 23,006,344, and embraces the states and countries of Guatemala, Mexico, United States, and the British, Russian, and Danish possessions. The Mississippi, St. Lawrence, Rio del Norte, Colorado, Oregon, and Mackenzie's, are its large and noble rivers. On its western side stretches the Rocky (including the Cordilleras) Mountains; and on the east, the Alleghany range; whilst in its interior lie the great lakes or inland seas, Superior, Huron, Erie, Ontario, Michigan, and many smaller ones.

HISTORY OF THE UNITED STATES.

Although America was discovered by Columbus in 1492, yet with the exception of Mexico, which was conquered by Cortes in 1520, no permanent settlements, or colonies, were formed in North America until 1607, when one was planted on the James River in Virginia. In New York a colony was planted by the Dutch, on the Hudson, in 1610. Another was established at Plymouth, Massachusetts, in 1620, by a part of Mr. Robinson's congregation, originally from England, whence they had fled from religious persecution, but directly from Holland, where they had resided several years.—This was the second English colony. As early as 1497, the Cabots, John and Sebastian, had explored in some measure the coast from Newfoundland, in the Gulf of St. Lawrence, down towards the Gulf of Mexico; and in 1512 Juan Ponce de Leon, a Spaniard, discovered the coast of Florida: these two names, Newfoundland and Florida, were the only names for the whole seaboard of our country, until the name *Virginia* (a name given by Queen Elizabeth, or rather by Sir Walter Raleigh in honour of her,) supplanted them as it regards a large part of it. Many unsuccessful attempts were made, both by the English and French, during a period of more than a century to found colonies. The most famous of these were the calamitous ones which were made under the auspices of Sir Walter Raleigh, 1584–1587.

After 1607, colonies were successively planted from Maine to Georgia, under charters from the English sovereigns. After having suffered much from oppressive and unjust acts of the Parliament of the mother country, and anticipating a continued disregard of their rights, the thirteen original Colonies, after much deliberation, and a solemn invocation of the aid of the God of battles, declared themselves, on the 4th of July, 1776, to be a free and independent people. In 1783 their independence was confirmed, and the limits of the country defined. To the original territory of the United States, the extensive region on our western border, called Louisiana, was added in 1803, by purchase, from the French Government for the sum of $15,000,000;

and in 1821 another important addition was made to our territory in the acquisition of East and West Florida, on the South, which were purchased from Spain for the sum of $5,000,000. The number of States has increased, since 1789, from thirteen to twenty-four, besides three territories, and a great extent of country in the West; and our population has been more than trebled, so that it has increased from 3,929,328 to 14,000,000.

LIMITS OF THE UNITED STATES.

Taken in its utmost extent, the territory of the United States, as a physical section of the earth, extends from N. lat. 24° 27′ to N. lat. 49°, and from 10° E. to 54° W. long. from Washington City. It is bounded north by British North America; north-west by Russian America; west by the Pacific ocean; south-west by the Mexican states; south by the Gulf of Mexico, and Cuba channel; and south-east, and east by the Atlantic Ocean.

	Miles.
This immense region has a limit in common with British North America, from the mouth of St. Croix River to the Rocky Mountains, -	3,000
By an indefinite boundary from the Rocky Mountains to the Pacific Ocean, say - - - -	600
Along the Pacific Ocean from N. lat. 49° to 42°, -	486
From 42° on the Pacific, along the Mexican border to the mouth of the Sabine on the Gulf of Mexico,	2,300
Along the Gulf of Mexico, from the mouth of the Sabine to Cape Sable, - - - -	1,100
Along the Atlantic Ocean, - - - -	1,800
Having an entire outline of - - - -	9,286

The above differs a little from Mr. Darby's statement, who makes the 51°, (in one place he seems to prefer the 54° 40′ as the extreme northern limit,) to be the boundary from the Rocky Mountains to the Pacific Ocean. But I doubt the propriety of taking the 51st degree of north latitude, as the line of boundary from the Rocky Mountains

That line is not settled; but it will hardly be beyond the 49th degree. The Russians claim to 54° 40′ of N. lat.; and the British Government, in common with the United States, claims the country west of the Rocky mountains, as far south as the 42d deg. of N. lat. It is to be regretted that our government does not look after this matter.* The tide of population has rolled on, until it has almost reached the foot of the Rocky Mountains, and soon it will extend beyond those everlasting hills, upon the plains of *Oregon*, as that region is now denominated.

The boundaries of the United States, when particularly given, are as follows: On the north, the line between them and British America runs along the highlands, which separate the waters which flow into the Atlantic from those which flow into the St. Lawrence, to the 45° N. lat.; thence along that line to the St. Lawrence, and up that river to Lake Ontario, through the middle of that lake and lakes Erie, St. Clair, Huron, and Superior, and the intervening rivers or outlets, to the Grand Portage on the north-west side of the last named lake; thence across to a series of little lakes which lead to Rainy Lake: down Rainy Lake River to Lake of the Woods, through that lake to its north-west angle, and thence down a meridian line to the 49°: along that degree to the Rocky Mountains—beyond these mountains it is not settled, but will probably be continued along the 49° to the Pacific: along the Pacific shore to 42°: up that degree of latitude to a point due north of the Arkansas river; down that river to the point where the 100dth degree of longitude west from Greenwich intersects that river; along that meridian to Red River; down Red River to the 17° 30′ W. lon. from Washington; down that meridian to the Sabine river, which it pursues to its mouth.—On the south is the Gulf of Mexico; on the east the Atlantic Ocean, and on the north-east the St. Croix river, and

* It is high time that the question of boundary on the north-west from the Rocky Mountains to the Pacific Ocean should be settled. As the territory to which it relates, is now comparitively unimportant to any one, the question may be much more easily settled than at a future day, when it will appear more valuable in consequence of the proximity of population, and stronger interests on each side. The difficulties in Maine would probably have been prevented, had suitable attempts been made to settle the N. E. boundary in 1816 or '18.

a line due north from that river to the Highlands, which separate the waters running into the St. Lawrence from those which run into the sea.

Mr. Darby calculates the territory of the United States at 2,257,374 square miles; or a fraction more than one-twentieth part of the whole land surface of the earth.* Mr. Tanner estimates it, and I think, for reasons contained in the foregoing paragraphs, more accurately, at 2,037,165 square miles.

The territory of the United States is naturally divided into three great sections; 1st, that of the Atlantic slope; 2d, that within the great central valley of North America; and, 3d, a slope or inclined plane, extending from the Rocky mountains to the Pacific Ocean.

Of these three divisions, the first and the last, or in other words, the eastern slope, (that is the whole section which lies east of the Alleghany mountains, from Maine to Florida,) and the western slope, (which lies west of the Rocky mountains,) are far from being equal to the middle section, commonly called the great "Mississippi valley," or basin. For if we take the fifteen states which lie on the Atlantic slope, viz: the six New England States, New York, New Jersey, Pennsylvania,† Delaware, Maryland, Virginia,† North and South Carolina, Georgia, District of Columbia, and about half of Florida, we have an area of 384,580 square miles. And on the Pacific slope, according to Mr. Tanner, we have 299,438 square miles, making a total on these slopes of 684,018 square miles, and leaving to the Valley of the Mississippi 1,353,147 square miles. From this view, we learn the vast extent of the section of our country which I am about to describe. In the next chapter we shall ascend the Alleghany mountains, and take a view of the "Great Central Valley," as it is called, and give its outlines, and some general description of it.

* View of the United States.
† Exclusive of the parts of those states which lie in the West.

CHAPTER II.

The existence of a great Central Valley in North America.—Boundaries of that Valley.—A General description of it and its component parts, or basins.—Boundaries of the valley of the Mississippi.—Boundaries of the valley of the St. Lawrence.—Contrast between these two vallies. General remarks.

Any man who will take the trouble of examining a well executed map of North America, will at once notice the fact, that there is what may, with propriety, be called a great Central Valley extending through it, from south to north. The outlines of this Valley are as follows: On the east is the Alleghany range of mountains, which separate the waters which run into the Atlantic Ocean from those which flow into the Gulf of Mexico and the St. Lawrence. This boundary may be considered as commencing at the extreme point of Florida, and pursuing what may be called the low dividing ridge of that peninsula, it passes into Georgia, separating the streams of the Chattahooche from those which flow eastward, and thence follows the Alleghany range of mountains to the north east, more than 1200 miles, until that range, which is almost perfectly continuous, terminates at the Gulf of St. Lawrence, in Lower Canada. It may even be said to be continued in the low dividing ridge which, on the north side of the Gulf of St. Lawrence, runs through Labrador to Hudson's Strait, separating the waters which flow into the Atlantic from those which flow into Hudson's Bay. On the west, the Rocky Mountains, which are a continuation of the Cordilleras of Mexico, are its boundary, stretching north-west more than 2,500 miles, until they terminate on the Northern Ocean, near Behring's Straits. These two ranges of mountains are more than 1,000 miles apart in the south; and they diverge to a far greater distance as they approach the North. They are of unequal heights; for whilst probably no point of the Alleghany system exceeds 4,000 feet, some of the highest portions of the Rocky Mountains are believed to be much more elevated.

Both rest on very extended bases of granite, which in its lowest position is seen at the falls of the rivers which flow from these 'everlasting hills.'

On the south, this immense Valley terminates on the crescent-like shore of the Gulf of Mexico; and on the north, on that of the Northern Ocean. Its immense extent will be perceived by a reference to the several subdivisions of which it is composed. The principal of these are, 1st, the valley of the Mississippi, or that vast basin which is drained by the Mississippi river and its confluents, (including several smaller parallel streams which fall into the Gulf of Mexico from the same physical section,) containing at least 1,300,000 square miles; 2d, the valley of the St. Lawrence, embracing Upper and Lower Canada, and a part of the United States, and containing 500,000 square miles; 3d, the great basin which is drained by the numerous streams which flow into Hudson's Bay: and, 4th, the valley of the Mackensie's river, a very large stream, whose course is more than 2000 miles in length, and which has many confluents. The two last named sections of this Central Valley contain at least 2,500,000 square miles; so that the whole Central Valley, including Texas, on the south west of the Valley of the Mississippi, cannot embrace less than 4,300,000 square miles!

It is remarkable that throughout this vast extent of country, from the Gulf of Mexico to Hudson's Bay and the Arctic Ocean, there is little that deserves the name of a mountain. The dividing ridges which separate Mackensie's river from the streams which flow into Hudson's Bay, and also those which separate the latter from the confluents of the St. Lawrence, are of inconsiderable height, and are not to be compared with the mountains which constitute the eastern and western boundaries of the Valley. In fact, the whole expanse of country in the central and northern parts of this Valley is remarkably level, and abounding in lakes. Almost every river in this section of the Valley, is connected with several lakes. Mackensie's river has Athapescow, Slave, and other lakes. The Lake of the Woods, Winnepec, and others, are connected with the large river Saskatchewine, which flows ultimately into Hudson's Bay. And indeed almost every little stream which flows into that bay, either rises in a lake, or flows through one or more. Whilst

the St. Lawrence, for the first 1200 miles of its course, is little more than a series of vast lakes or inland seas. And the Mississippi too, although it is, in its main course, remarkably free from lakes, rises in the land of lakes, and its sources are from almost a hundred little lakes or ponds.

It is a circumstance worthy of notice, that the great rivers which drain the four sections (which I have called basins) of this Central Valley, all rise in the vicinity of each other, and on the western side of the Valley, and three of them indeed in the ranges of the Rocky Mountains, and within a space of less than ten degrees of latitude. The region stretching from the sources of the Mississippi and St. Lawrence, north-west towards the sources of the Mackensie's and Saskatchewine rivers, is elevated, and level in the eastern part, and broken or hilly, as you advance north-westward.

The lowest line from the Gulf of Mexico to Hudson's Bay pursues the Mississippi to its source; thence it crosses a low marshy country to the streams which flow into the Lake of the Woods, thence down to Winnepec, and down the outlet of that lake to Hudson's Bay. The day will come when there will be a continued line of water communication from one end of this valley to the other, and abundant facilities of commercial intercourse among the hundreds of millions who will then people this vast and fertile region.

In a state of nature, in which almost this whole Valley still is, it was a vast forest of trees, save where its lakes expand their waters, or where the prairies in the south-west prevail. This interminable forest was, and still is, the home of the Buffalo, the Elk, the Deer, the Bear, the Panther, and a vast variety of other species of animals, which I cannot here undertake to describe, or even enumerate. But what is infinitely more interesting and affecting, this vast region long was, and is still, the abode of many tribes of ignorant, degraded, benighted men, who deserve our sympathy, and our aid in furnishing them with the means of civilization, and of conversion to true Christianity.

The vallies of the Mississippi and St. Lawrence are the chief, and almost only parts of this great Central Valley which are inhabited, in any permanent manner, by civilized men. And even the greater portions of these vallies are the abodes of the uncivilized Indian, the wandering hunter

Note. The figures along the roads indicate the distances from place to place.
Long. West
Long. E. from
Washington
UPPER CANADA
LAKE ONTARIO
CHAMPLAIN
PENNSYLVANIA
NEW YORK
MASSACHUSETTS
CONNECTICUT
Utica
Albany
Troy
Schenectady
Hudson
Catskill
Kingston
Newburgh
Poughkeepsie
Rochester
Buffalo
Lockport
Canandaigua
Geneva
Auburn
Syracuse
Oswego
Ithaca
Binghamton
Owego
Elmira
Bath
Canandaigua
Batavia
Lewiston
Niagara
Fort Niagara
Genesee R.
Oswego R.
Mohawk R.
Hudson R.
Connecticut R.
Lake Erie
Lake Champlain
Lake George
Saratoga
Ballston
Lansingburgh
Albany
Troy
Schenectady
Utica
Rome
Whitestown
Oneida
Onondaga
Cayuga
Seneca
Genesee
Ontario
Orleans
Niagara
Chautauque
Allegany
Steuben
Tioga
Broome
Chenango
Otsego
Herkimer
Montgomery
Schoharie
Greene
Columbia
Rensselaer
Washington
Saratoga
Warren
Essex
Clinton
Franklin
St. Lawrence
Jefferson
Lewis
Oneida
Madison
Cortland
Tompkins
Cayuga
Seneca
Wayne
Monroe
Livingston
Ontario
Yates
Steuben
Allegany
Cattaraugus
Chautauque
Erie
Genesee
Orleans
Niagara
Delaware
Sullivan
Ulster
Orange
Rockland
Westchester
Putnam
Dutchess
Columbia
Rensselaer
Albany
Schoharie
Otsego
Chenango
Broome
Tioga
Chemung
Schuyler
Tompkins
Cortland
Onondaga
Oswego
Jefferson
St. Lawrence
Franklin
Clinton
Essex
Warren
Washington
Saratoga
Fulton
Hamilton
Montgomery
Herkimer
Oneida
Madison
Chenango

and trapper, and the beasts of the wilderness. As these two vallies are those which are most interesting to us, I shall devote the remaining portion of this chapter to some general remarks respecting them.

I have already given the greater part of the boundary of the Valley of the Mississippi. It is sufficient to say here, that on the east the boundary is the dividing ridge from the extreme southern point of Florida northward to the Alleghany mountains, along the dividing line of those mountains through Georgia, North Carolina, Virginia, Pennsylvania, into the State of New-York; thence it deflects westward, until it almost reaches the shores of Lake Erie; it then turns southward for some distance, and then pursues a western course through Ohio and Indiana, and in Illinois turns to the north; and separating the waters which flow northward into Lakes Erie, Michigan, Superior, and the Red River which flows into Lake Winnepec, from those which flow into the Ohio, Mississippi and Missouri, it terminates at the Rocky Mountains a little north of the 49°.—On the west, the boundary of the Valley of the Mississippi is the Rocky Mountains, down to about the 41°; and thence down the highest table land between the Arkansas and the Red River on the east, and Rio Bravo on the south-west, to the Gulf of Mexico, including Texas, and adjoining parts of Mexico; and on the south is the Gulf of Mexico. As described thus, it extends, exclusive of the Florida projection, through more than 20 degrees of latitude and 36 degrees of longitude, and contains at least 1, 300,000 square miles. If any one will take the trouble of drawing a line with his pencil on a map of North America, beginning at the southern point of Florida, and dividing the streams which flow into the Gulf of Mexico from those which flow into the Atlantic on the east, the Lakes on the north, and the Pacific on the west, until he terminates his course on the Gulf of Mexico again, he will have the real boundary of the Mississippi Basin or Valley; and he will be struck with two facts—1st. That the dividing line or boundary indicated by his pencil mark, (which will exhibit the true separating ridge) is remarkably crooked. And 2d. That it is not a mountain ridge, (when it runs through the mountain sys-

tem) but a ridge, if I may so speak, in the *basis* of the mountains—that is, in the table land on which the mountain ranges or ridges stand. This dividing line is not indicated at all by *any one* mountain ridge; as is proved by the fact, that all the mountain ridges of the Alleghany system are cut, in different sections of them, by rivers flowing directly in opposite directions. In Georgia and North Carolina, this divining line is under one of the most eastern ridges of the Alleghany mountains; but after it enters Virginia, in its northward course, it changes over to the western ridges—and in Potter county, in Pennsylvania, it is quite on the western verge of those ridges .In the States of New York, it leaves the mountains altogether, and does not enter them again until it reaches Vermont; so that the Susquehanna, Delaware, and Hudson rivers cut through every ridge of the Alleghany system.

The valley of the St. Lawrence extends first south-east, and then turns to the north-east, having the Gulf of St. Lawrence as its base, whilst it reaches to the elevated flat, marshy, table land on which the Mississippi has its sources. Sweeping down from this plateau to the south-east, and then terminating in the north-east, it embraces a considerable slope on the south and east, which belongs to the United States, including the whole peninsula of Michigan, a large part of Ohio, the north-west angle of Pennsylvania, and a great part of the state of New York and Vermont. From the northern part of the last named state, the highlands form its south-eastern boundary, in that part of its course, down to their termination in the British Province of Lower Canada. In giving the northern boundary of the Valley of the Mississippi, I gave at the same time that of the south western side of the Valley of the St. Lawrence. The northern boundary of this valley is the dividing line of land which separates the waters which flow into Hudson's Bay from those which flow into lake Superior, Huron, Erie, &c. and their great outlet, the St. Lawrence river. Of course, it extends by a deflected course eastward from the table land which lies north-west of the first named lake, to its termination in Labrador.

The Valley of the St. Lawrence, as described above, contains about 500,000 square miles, of which near 75,000 are included in the large and small lakes, or inland

seas, which lie within its bosom. Although the Mississippi and St. Lawrence rise on the same elevated table land, they are exceedingly diverse in their characteristics, and pass through vallies as diverse as are the rivers which give origin to their names. The Mississippi is remarkable for its constant changes as to the size of the volume of water which it rolls to the ocean: the St. Lawrence is uniform throughout the year. A rise of 30 feet in the former is less remarkable than that of 3 feet in the latter. The former is turbid and muddy, whilst the latter is always limpid. The whole course of the one is destitute of a lake of any consequence, whilst the other is adorned with many large expansions of water. The one annually swells and overflows its banks to a great extent—the other never does. The Mississippi flowing from north to south, passes through a great variety of climate, and falls into the ocean in the region of almost constant warm weather; whilst its great rival rises also far to the north, winds down into the south as far as the 41°, 30′, and then turns towards the north again, and finally ends in its original climate of ice and snow. The Mississippi divides above its entrance into the ocean, and pours its waters through several separate channels into the common reservoir; whilst the St. Lawrence imperceptibly widens into a large bay which finally opens into a gulf of the same name. The former, with twice the length, is supposed to roll a volume of water of not more than half the size of that of the latter. The banks of the one for a thousand miles above its mouth, are low and monotonous; whilst those of the other generally slope from the water by an elegant acclivity, and are beautiful when cleared of the forests. Much of the surface of the Valley of the Mississippi is composed of prairie regions, and grassy plains, where but few shrubs and trees are found; whilst almost the whole Valley of the St. Lawrence in a state of nature, is covered with interminable forests. And whilst the tide is scarcely perceived in the great river of the former, it often rises 20 and 30 feet in that of the latter, and ascends more than 400 miles.

If it is true, that the ocean-waters have greatly subsided since the creation, and are now gradually diminishing, as is the fact with regard to the Baltic; the time probably was when this whole Central Valley was submerged, and the Appalachian or Alleghany mountains were islands in the

ocean; and as the waters gradually abated, the highest parts of the valley appeared, and streamlets began, of course, to run toward their Ocean Father, and following his gradually departing waves, became themselves expanded into lakes and wide rivers. That such has been the history of the rivers which flow through this great Central Valley, is manifest to any one who notices the corresponding appearances in the stratifications which are found in their banks, which show that these river-channels were formed by abrasion—that is, by the continued action of the water, wearing away channels in a soil or ground which was once continuous and uniform. There cannot be a doubt that Lake Ontario has sunk, by its outlet, the St. Lawrence, breaking through, or rather washing away, the barriers which once elevated it to the level of Lake Erie.

In the peculiar forms, if I may so speak, of these rivers, we see a fine illustration of the wisdom and goodness of God. It is manifest that all long rivers which flow towards the north are peculiarly liable to excessive floods in the spring season, when the snow and ice melt. For as the sun advances to the north, the upper or southern branches will first pour down their floods upon the parent stream below, which would soon be filled with ice, accumulated upon its own unbroken bed, and which, when yielded, would spread desolation far and wide. Now what resource has the St. Lawrence to prevent this? Its numerous and extensive lakes, where the rising waters from above may be collected, as in immense reservoirs; and before they can raise the surface of the waters in these, the St. Lawrence is free from ice. Hence the reason why this river varies so little through the year in the volume of its waters. Now we cannot conceive of the terrible results which would take place, if the Mississippi, which has not a lake from its sources to its mouth, of any note, flowed northward, and entered into the Northern Ocean. And I believe that we can scarcely find an instance of a very long river flowing from south to north, in high latitudes, which has not the admirable provision of lakes to contain and regulate its immense volume of waters in the spring time.

I will only add, that the Valley of the St. Lawrence ought to be an interesting country to the christian and statesman—to the one, because it contains many immortal beings

civilized and savage, whose moral cultivation is devoutly to be desired; and to the other because it is capable of containing a population of fifty millions, and is now the cradle of what will one day be a great nation of freemen!

The preceding view of the great Central Valley of North America will not prove uninteresting, I trust, to the reader; and it will have some bearing upon the succeeding description of the Valley of the Mississippi, which I shall commence in the next chapter.

CHAPTER III.

General Account of the Valley of the Mississippi.—Its Extent.—Subdivisions.—Geography and Physical Character.

HAVING spoken in the last chapter of the great Central Valley of North America, extending from the Gulf of Mexico to the Northern Ocean, I proceed to give a general description of the southern part of it, embracing *all that part of the United States which lies between the Alleghany and Rocky Mountains, now called in common language*, the "Valley of the Mississippi." This vast region may be described in a few words, as bounded on the North by the Lakes, and the British possessions: east by the Alleghany Mountains; on the South by the Gulf of Mexico; and west by Mexico and the Rocky Mountains.

In the last chapter, when describing the several parts of the great Central Valley, I gave the boundaries of what is *strictly* the valley of the Mississippi. In the description which I have just given, I have included under the name VALLEY OF THE MISSISSIPPI, the whole of that part of the country which lies between the Alleghany and Rocky Mountains, and the Gulf of Mexico and the Lakes.—This is now the common, though somewhat vague acceptation of the title. It will be at once perceived that it includes on the north, a strip of land, of variable width, which properly belongs to the Valley of the St. Lawrence; and on the south-east it includes the whole of Alabama and parts of Mississippi, Florida, and Georgia, which are not watered by any branch of the Mississippi river, but which are so

much like this region in their physical features, as to be, it is believed, properly considered a part of it.

The Valley of the Mississippi, as described above contains more than 1,350,000 square miles, and considerably more than two-thirds of the United States; and about *one-twenty-eighth* part of the whole land surface of the earth if we suppose with Mr. Darby, that surface to be equal to 38,840,000 square miles; or *one-thirty-eighth* part, if we suppose, with Mr. Tanner, the land area of the earth to be 51,520,667 square miles. Leaving out the Florida projection, it reaches from the 29° to the 49° of north lat., or about 1400 miles. Its outline or boundary exceeds 6,000 miles. From the sources of the Alleghany river to the sources of the Missouri, the distance is fully 5,000 miles by the course of the rivers, and from the sources of the Tennessee to those of the Arkansas, the distance, in the same manner, is nearly 4,000 miles.

The States, Territories, &c. which are included in the Valley of the Mississippi, are the following. The areas are from Mr. Tanner's estimates.

	Square Miles.
West Florida,	27,840
Alabama,	52,900
Mississippi,	47,680
Louisiana,	49,300
Ohio,	39,750
Indiana,	36,500
Illinois,	57,900
Missouri,	65,500
Kentucky,	40,500
Tennessee,	40,200
Michigan,	38,000
Arkansas,	60,700
West Pennsylvania, (or one-third of that state)	15,833
West Virginia, (or two-fifths of that state)	26,649
Mandan District,	295,203
Sioux do.	162,385
Huron do.	120,975
Osage do.	91,980
Ozark do.	83,350
	1,353,145

If we were to include the parts of Georgia, North Carolina, and New York, which really belong to the Valley of the Mississippi, we should have to add 25,000 square miles. The extent of the Valley would then stand thus:

The States and Territories named above, .	1,353,145
Parts of Georgia, North Carolina and N. York,	25,000
Making a total of . . .	1,378,145

Mandan, Sioux, Huron, Osage, and Ozark, are names given, very appropriately, to the great regions on the Upper Mississippi, Missouri, and Arkansas rivers, and which have been commonly called the "North Western," and "Missouri Territories." Huron District is attached to Michigan; the other districts are governed, as far as they have any civilized government, by the military Superintendents and Indian Agents, who are in the service of the United States.

GEOGRAPHY AND PHYSICAL CHARACTER.

This vast region may be considered as two great inclined planes, whose line of intersection follows the Mississippi river to the mouth of the Ohio, up that river to the Wabash, along that river to its sources, and thence direct to Lake Erie, by the Maumee river. This is the *lowest* continuous line from the Gulf of Mexico to the Lakes. On each side of this line, these planes ascend gradually to the Alleghany and Rocky Mountains on the East and West. The eastern plane is much narrower than the western, consequently the rivers which flow down from the Alleghany mountains towards the west, (or south-west as their course generally is) are shorter than those which flow down the western plane, from the Rocky Mountains. Down the former run the Ohio, commencing at the junction of the Alleghany and Monongahela, and its branches, the Kanawha, Kentucky, Scioto, Cumberland, and Tennessee. Further south, the Yazoo, the Big Black, and the Homochitto, come in from the east; whilst on the south-east, the Peal, Mobile, Appalachicola, and many other smaller streams, flow directly into the Gulf of Mexico. Down the latter, (the western plane), flow the Upper Mississippi, Missouri, Arkansas and Red River, &c. &c., with their numerous tributaries.

If we except the Valley of the Amazon, probably no other valley on the globe will compare in size with that of the Mississippi; and it probably surpasses all others in the richness and variety of its soil, and its general adaptation to the support and comfort of civilized men. In extent it is like a continent, being, in fact, more than one-third as large as Europe: In beauty and fertility it is the most perfect garden of nature; and by means of its thousand streams, wonderful facilities are extended to every part of it for commercial intercourse during a part, at least, of the year.

The Mississippi is the great river of this region. It rises on the elevated table-land lying westward from Lake Superior. Its sources are a number of small lakes in that marshy region, in about 47° 47′ north latitude. The St. Peter's, with ten or twelve tributaries, is the principal upper branch of the Mississippi. Above the falls of St. Anthony it is five or six hundred yards wide. In latitude 39° comes in the Illinois, a noble stream, 400 yards wide at its mouth, and navigable by boats almost 400 miles. A little below 39°, the Missouri discharges its mighty tribute. In about 38° the Kaskaskia from the east joins the Mississippi, eighty yards wide at its mouth, with a course of nearly two hundred miles, a great part of which, at some seasons of the year, is navigable for boats. About 37° comes in the Ohio, called by the early French settlers, "La Belle Riviere," the beautiful river. At its junction with the Mississippi, and for nearly 100 miles above, the Ohio is as wide as the parent stream. Below 34° the St. Francis enters from the west, having a course of 500 or 600 miles. A little below 34°, enters the White River, with a course of 1,200 miles, and with a mouth between three and four hundred yards wide. Thirty miles below, the Arkansas pours in its waters, five hundred yards wide at its mouth, with a course of 2,500 miles. In the state of Mississippi the Yazoo comes in from the east, between two and three hundred yards wide. Eighty miles below Natchez, and a little above 31°, the Red River enters, a stream nearly as long and deep as the Arkansas. Immediately below that point, the Mississippi rolls it greatest volume of water. A few miles below Red River is seen the first important bayou, or outlet, viz. the *Atchafalaya*, that conveys to the Gulf by its own separate channel the surplus waters of the Mississippi.

Below the falls of St. Anthony, the Mississippi is half a mile in width, and is a clear and tranquil stream. A few miles below the entrance of the Des Moines, are rapids of nine miles in length, which are a considerable impediment to navigation. Below these rapids to the mouth of the Missouri, the river is from three quarters, to a mile and a quarter in width, with calm and transparent waters. The Missouri wholly changes its character. It now has a furious current, with a turbid mass of waters, and for a distance of 200 miles, rough and rugged shores. From the Falls of St. Anthony to the Missouri, the current is at the rate of two miles an hour; below the Missouri it is four miles, and often more, per hour. Owing to accidental circumstances the impetus of the current is often shifted, and the river tears up islands, removes the sandbars, and sweeps away the alluvial soil, with all its trees and deposites, to another place.

The sources of the Missouri rise among the Rocky Mountains, through ten degrees of latitude, or near seven hundred miles. The Yellow Stone is its longest branch. The Missouri is remarkably free from falls or rapids. After leaving the Rocky Mountains, this overwhelming mass of waters, though every where flowing with great rapidity, no where swells into a lake, or rolls over a single cataract, in a distance of at least three thousand five hundred miles to the Gulf of Mexico. At its junction with the Mississippi, the Missouri rolls a volume of water twice as large as that of what is called the Parent stream, and it far exceeds it in length. Indeed there can be no doubt that the Missouri, with what is really its continuation, the Mississippi, is more than 4,000 miles in length, and is the longest river on this globe,* and unlike any other, it rises in the regions of almost perpetual snow, and pours its waters into the ocean in the region of the sugar cane and the olive.

The Ohio is, in a remarkable manner, gentle as it respects its current; and from Olean in Cattaraugus county in New-York, to the Mississippi, over a distance of more than 1200 miles, following its stream, at a moderately high flood, meets, excepting the rapids at Louisville, with not a single serious natural impediment.

* See North American Review, Vol. XVI. p. 60.

In the next chapter I shall resume the consideration of the physical features of the Valley of the Mississippi.

CHAPTER IV.

Geography and Physical Character—Valley of the Ohio—Of the Upper Mississippi—Of the Lower Mississippi—Of the Missouri.

The Valley of the Mississippi has been divided by Mr. Darby, into *four great subdivisions.** 1. *Ohio Valley*, length 750 miles, and mean width 261 ; containing 196,000 square miles. 2. *Mississippi Valley*, above the junction of the Missouri, including the minor valley of the Illinois, but exclusive of the region drained by the Missouri, 650 miles long, and 277 mean width, and containing 180,000 square miles. 3. *Lower Valley of the Mississippi*, that is, of the Mississippi below the entrance of the Ohio river, including White, Arkansas, and Red River vallies, 1000 miles long, and 200 wide, containing 200,000 square miles. 4. *Missouri Proper*, including Osage, Kansas, Platte rivers, &c. 1,200 miles long, and 437 wide, containing 523,000 square miles.

This division, I would remark, is a convenient one—and although I believe it makes these great subdivisions too small, particularly the first three, yet I shall follow it in the general remarks which I shall make in this chapter. I need not inform the reader, that this arrangement leaves out of view the extensive region in the south east, embracing a part of the State of *Mississippi*, almost the whole of *Alabama*, *West Florida*, and that portion of Georgia which is watered by the Appalachicola and its branches ; and also *Michigan Territory*. These sections will be described particularly when I come to treat of each State and Territory separately.

The *Valley of the Ohio* is better known than any of the others ; has much fertile land, and also much that is unfit for cultivation, on account of its unevenness. It is divided

* View of the United States, Chap. VIII. from which the greater part of the information contained in the present Chapter is derived; and frequently is given in the language, slightly changed, of that author.

into two unequal portions, by the Ohio river; leaving on the right or north-west side 80,000, and on the left or south-east side, 116,000 square miles. The eastern part of this Valley is hilly, and ascends rapidly as you approach towards the Alleghany mountains. Indeed its high hills, as you approach these mountains, are of a strongly marked mountainous character. Of course the rivers which flow into the Ohio from the east, viz. the Monongahela, Kanawha, Guyandot, Sandy, Licking, Kentucky, Green, Cumberland, and Tennessee, are rapid, and abounding in cataracts and falls, which, towards their sources, greatly impede navigation. The western side of this Valley is also hilly for a considerable distance from the Ohio, but towards its western limit, it subsides into a remarkably level region. So that whilst the eastern line of this Valley lies along the high table land on which the Alleghany Mountains rest, and where the rivers of the eastern section of this Valley rise, which is generally at least 2000 feet above the ocean level; the western line has not an elevation of much more than one half of that amount on the north, and greatly subsides towards the Kaskaskia. The rivers of the western section are, the Alleghany, Beaver, Muskingum, Hockhocking, Scioto, Miami, and Wabash. Along the Ohio, on each side, are high hills, often intersected with deep ravines and sometimes openings of considerable extent, and well known by the appellation of the "Ohio Hills." Towards the mouth of the Ohio, these hills almost wholly disappear, and extensive level bottoms covered with heavy forests of oak, sycamore, elm, poplar, ash, and cotton wood, stretch along the banks of the river. On this lower section of the river, the water, at the time of the spring floods, often overflows these bottoms to a great extent. This fine Valley embraces a population exceeding 3,000,000, which is nearly three-fourths of the whole population of the entire Valley of the Mississippi. The western parts of Pennsylvania and Virginia, the entire states of Ohio, Indiana, and Kentucky, the larger part of Tennessee, and a small part of Illinois, are in the Valley of the Ohio.

The Upper Mississippi Valley, (lying above the entrance of the Missouri) has been imperfectly explored beyond the falls of St. Anthony. It possesses a surface far less diversified than the Valley of the Ohio. According to Mr. School-

craft, the sources of the Mississippi river have an elevation of 1330 feet above the ocean level. This is about the elevation of the level marshy table land which extends from Lake Superior to the Missouri at the Mandan Villages. Throughout the whole of the Valley of the Upper Mississippi, of which we are speaking, there is nothing which deserves the name of a *Mountain*. There is not probably on the earth an equal extent of territory, which is of so level and monotonous a character. The highest sources of the Mississippi river originate in the numerous small lakes which lie between the sources of the Assiniboin and Lake Superior. On the western side, it receives, as you descend from its sources, the Leech-lake river, Sac, Pine, Crow, Elk, Upper Jaway, St. Peters, Turkey, Little Maquaquetois, Galena, Great Maquaquetois, Lower Jaway, and Des Moines. From the eastern side, the Round-lake, Sandy-lake, St. Francis, Rum river, St. Croix, Chippeway, Black, Ouisconsin, Riviere au Fievre, (Fever river,) Rock, and Illinois, pour in their several streams. It will be readily perceived that this Valley has great advantages for internal navigation and commerce.

The Upper Mississippi Valley is very dissimilar to the Valley of the Ohio. The former is remarkably level and uniform, the latter in many parts broken, hilly, even approaching to mountainous. The one abounds in lakes and marshes, the other is wholly destitute of them. The former is covered with *prairies*, that is extensive districts destitute of trees, and covered with high grass and wild flowers, and low shrubs; the latter is covered, in its natural state, with interminable *forests*, which are only here and there, even now, interrupted by the cultivated field. In the Upper Valley of the Mississippi, clumps of trees may be seen along the rivers and water courses, whilst the far greater proportion of it is open prairie, either elevated and dry, or low and marshy, possessing generally great fertility of soil, (although there are many strong exceptions,) and greatly destitute of timber. It will be the great region of pastoral wealth, abounding in food for innumerable herds and flocks.

In latitude 45°, are the Falls of St. Anthony, where the Mississippi is precipitated over rocks of sixteen or seventeen feet of elevation; and, including the rapids immediately below, has a descent of 74 feet. The Valley of the Ohio has

a similar, but not equal, impediment to its navigation, in the rapids at Louisville, where there is a fall of twenty-two feet, in the distance of two or three miles. We may add that there are millions of acres in the Valley of the Upper Mississippi, of marsh and lake, which are covered with *wild rice*, (zizania aquatica) which feed innumerable flocks of water fowls, and which will probably be an article of food to a large population, as it now, occasionally, affords to the famished hunter and Indian the means of satisfying their hunger. Upon the whole, the Valley of the Upper Mississippi is inferior to the valley of Ohio, but it will eventually contain a large population. There are fine tracts of fertile land on the Ouisconsin (pronounced Wisconsin), Fox, and some other rivers.

The Lower Valley of the Mississippi has a length of 1,200 miles, from north-west to the south-east, having the sources of the Arkansas, and the mouth of the Mississippi river as extreme points; reaching from north lat. 29° to near 42°, and without estimating mountain ridges or peaks, differing in relative elevation at least 5000 feet. And as an elevation of 500 feet is believed to be equal, as it regards temperature, to one degree of latitude on the level ocean shore, if we add the actual difference of latitude, 13°, to an allowance of 10° for relative elevation, the climate at the north-west extreme must differ from that of the Delta, (or Islands, in the mouth of the Mississippi,) 23° in temperature, and render the seasons at the head of the Arkansas nearly as severe as those in north lat. 52° on the Atlantic coast of Labrador. [This is Mr. Darby's estimate. But I think that that distinghished writer is in a slight error here; for it cannot be that the mountain vallies at the sources of the Arkansas are 5000 feet above the ocean level.]

From the influx of the Missouri to that of the Ohio, the volume of the Mississippi rolls by a general S. S. E. course of 190 miles, by its windings; but on receiving the Ohio, it inflects to a course of S. S. W. 380 miles, to the entrance of the White and Arkansas rivers; it then turns to a very little W. of S. crosses three degrees of latitude, or about 360 miles by its sinuosities, to the point where the 31° intersects it, or rather about a mile and a half below the commencement of the Atchafalaya (or Chaffalio, as it is pronounced) outlet, a few miles below the entrance of Red River. From

this point the Mississippi inflects its general course, and bends to S. E. which it pursues to its final discharge into the Gulf of Mexico, a distance by the river of 335 miles. So that from the mouth of the Missouri, the length of the Mississippi, by all its windings, is 1265 miles, but by a direct line, only 820 miles.

Into the Mississippi, as a recipient, are poured from the east, below the mouth of the Ohio, the Obion, Forked Deer, Big Hatchie, Wolf, Yazoo, Big Black, and Homochitto; and from the West, or North West, the St. Francis, White, Arkansas, and Red rivers, with other streams of less note.

It is a most remarkable circumstance that there is such a prodigious inequality between the two opposing planes, down which are poured the confluents of the Mississippi, below the mouth of the Ohio. The western inclined plane, falling from the Rocky Mountains, sweeps over 800 or 1000 miles; whilst the eastern, sloping from the states of Tennessee and Mississippi, does not average a width of 100 miles. And whilst the White River flows down 1200 miles, the Arkansas near 2500, and the Red River from 1500 to 2000, there is no river on the eastern plane whose whole course exceeds 200 miles. The Arkansas and Red rivers are immense streams, and as they approach the Mississippi river, have many branches which, after leaving their parent river, run parallel to it, and finally unite with it again. Near the mouth of the former, some of these bayous on the south side, in high water, never return to the parent stream, but run directly to the Red River; and some of those which break from the Red River, make their way to the Atchafalaya, and find an outlet for their waters one hundred and fifty miles westward of the Mississippi.

The Arkansas rises near north lat. 42°, and lon. 32° west, and falls into the Mississippi at 33° 53', passing over eight degrees of latitude. It drains nearly as large a valley as the Ohio does. Red River rises in the mountains of Santa Fe, in north lat. 32°--35°, and west lon. 25°--28°, from Washington, and falls into the Mississippi in lat. 31°. They are both remarkable rivers for their extent, the number of their branches, the volume of their waters, the quantity of the alluvion which they carry down to the parent stream, and the

colour of their waters. They doubtless cause the Mississippi to infringe so often upon the bluffs which are so conspicuous on its eastern bank. Impregnated by saline particles, and coloured by ochreous earth, the waters of these two rivers are at once brackish and nauseous to the taste, particularly near their mouths; that of Red River is so much so, that at Natchitoches at low water, it cannot be used even for culinary purposes. White River, which enters above the Arkansas, is a noble stream, and drains a fine country belonging to the State of Missouri and Arkansas territory. The St. Francis is also a considerable river, and falls into the Mississippi 280 miles below the Ohio.

At a short distance below the mouth of Red River, a large bayou, (as it is called,) or outlet, breaks from the Mississippi on the west, by which, it is believed, that as large a volume of water as Red River brings to the parent river, is drained off during the high spring floods, and runs into the Gulf of Mexico, one hundred and fifty miles from the mouth of the Mississippi. The name of this bayou is Atchafalaya. Below this bayou, another, of large dimensions, breaks forth on the same side, and finally falls into the Atchafalaya. This is the Placquemine. Still lower, at Donaldsonville, seventy-five miles above N. Orleans, on the same side, the Lafourche Bayou breaks out, and pursues a course parallel to the Mississippi, and enters the Gulf fifty miles west of the mouth of that river. On the east side, the Ibberville Bayou drains off a portion of the waters of the Mississippi, into lakes Maurepas, Ponchartrain, Borgne, and the Gulf of Mexico, and thus forms the long and narrow island of Orleans.

In the lower Valley of the Mississippi there is a great extent of land of the very richest kind. There is also much that is almost always overflown with water, and is a perpetual swamp. There are extensive prairies in this Valley, and towards the Rocky Mountains, on the upper waters of the Arkansas and Red River, there are vast barren steppes or plains of sand, dreary and barren, like the central steppes of Asia. On the east of the Mississippi, are extensive regions of the most dense forests, which form a striking contrast with the prairies which stretch abroad on the western side of this valley.

The Valley of the Missouri extends 1200 miles in length

and 437 in average width, and embraces 523,000 square miles. The Missouri River rises in the Rocky Mountains, through an extent of ten degrees of latitude, or near 700 miles. The Yellow Stone is its longest branch. The course of the Missouri, after leaving the Rocky mountains, is generally S. E. until it unites with the Mississippi. The principal branches flow from the S. W. They are the Osage, Kansas, Platte, &c. The three most striking features of this Valley are: 1st. The turbid character of its waters. 2d. The very unequal volumes of the right and left confluents. 3d. The immense predominance of the open prairies, over the forests which line the rivers. The western part of this Valley rises to an elevation towards the Rocky Mountains, equal, as it regards temperature, to ten degrees of latitude.

Ascending from the lower verge of this widely extended plain, wood becomes more and more scarce, until one naked surface spreads on all sides. Even the ridges and chains of the Rocky Mountains partake of these traits of desolation. The traveller, who has read the descriptions of central Asia, by Tooke or Pallas, would feel, if transported to the higher branches of the Missouri, a resemblance, at once striking and appalling; and he would acknowledge, if near to the Rocky Mountains in winter, that the utmost intensity of frost over Siberia and Mongolia, has its full counterpart in North America, on similar, if not on lower latitudes.—There is much fertile land in the Valley of the Missouri, though there is much that must be forever the abode of the Buffalo, the Elk, the Wolf and the Deer.

CHAPTER V.

1. Climate, considered in relation to the productions of this region.—2. Minerals.—3. Soil.—4. Trees.—5. Animals.

In the last Chapter I gave an account of the *four great subdivisions* of the Valley of the Mississippi. In this I proceed to give some further notices of its physical features and resources.

1. *Climate, considered in relation to the productions, &c.*—We may number four distinct climates between the sources and the outlet of the Mississippi. The first, commencing at its sources, and terminating at Prairie du Chien, in lat. 43°, includes the northern half of Michigan Territory, almost the whole of Huron and Sioux districts, and all of Mandan, and corresponds pretty accurately with the climate between Boston and Quebec; with this difference, that the amount of snow falling in the former is much less than in the latter region; and its winters are not as severe, and its summers are more equal in temperature. Five months in the year may be said to belong to the dominion of winter. The Irish potatoe, wheat, and the cultivated grains, succeed well in this climate; but the apple, peach, pear, and the species of corn called *gourd seed*, require a more southern climate to bring them to perfection. Abundance of wild rice grows in the numerous lakes at the head of the Mississippi, which constitutes an important article of food for the natives. On account of the vast body of frozen water still further to the north, Spring opens late; but the Autumn continues longer than in the same parallels on the Atlantic. A species of corn called the *Mandan*, cultivated by the Mandan and other tribes, flourishes in this climate.

The next climate includes the belt of country between 43° and 36° 30'. In this climate lie Missouri, Illinois, Indiana, Ohio, the southern part of Michigan territory, Western Pennsylvania, Western Virginia, and Kentucky. The severity of winter commences with January and ends with the second week of February. *Wheat* is at home in this climate.

The Irish potatoe flourishes well in the northern, and the sweet potatoe in the southern part. It is the favoured region of the apple, the pear, and the peach tree. The persimmon is found throughout, and the pawpaw with its luscious fruit, abounds in the southern part. Throughout the southern half of this climate, Cotton is cultivated for home consumption, and some for exportation, but not much. *Tobacco* and *Hemp* find a congenial soil, and temperature, in the same part of this climate.

The next climate extends from 36° 30′ to 31°. Below 35°, in the rich alluvial soil, the apple tree begins to fail in bringing its fruit to perfection. Between 36° and 33° cotton is in general a certain crop; but below 33° is perhaps its best climate, and there it becomes a first rate staple article. Wheat is not cultivated much in the southern part, but corn grows luxuriantly throughout this climate. I have never seen finer orchards than in the northern part.—Tennessee, Arkansas, and almost the whole of Mississippi, Alabama, and Georgia, lie within this climate. Wheat is not cultivated in the southern part, and does not flourish in any part as well as in the one preceding. The long moss is here seen on the trees along the swamps. The palmetto abounds, and the fig tree and orange flourish in its southern parallels. Sugar cane will grow also in that part of this climate, but is not a profitable crop generally, as the season is too short for its full maturity.

Below 31°, to the Gulf of Mexico, is the region of the sugar cane and the sweet orange tree. It would be, if it were cultivated, the region of the olive. On the Florida projection, almost every species of tropical fruits, including the banana, cocoa, almond, &c. find an agreeable climate, and in many places a suitable soil.

Snow is seldom seen here, and the streams are not often frozen. Winter is only marked by nights of white frost, and days of north-west winds, and these do not last longer than three days at once, and are succeeded by south winds and warm days. Cotton and corn are planted from February to July. The trees are generally in leaf by the middle of February, and always by the 1st of March. Early in March the forests are in blossom. Fireflies are seen by the middle of February. In these regions the summers are uniformly hot, although there are days when the mercury rises as high

in New England as in Louisiana. The heat, however, is here more uniform and sustained, commences earlier and continues later. From February to September, thunder storms are common, accompanied sometimes with gales and tornados of tremendous violence.

The climate of the Valley of the Mississippi corresponds, it is believed, more exactly with the latitude, than that of the Atlantic States does; this is owing, 1st. To its uniformity, being a vast *basin*, and remote from the influences of the ocean—and 2d. To its freedom from mountains and other natural causes affecting climate. The elevation of the northern end, and especially that of the extreme eastern and western parts of its great planes, gives a colder climate than the same parallels on the level shores of the Atlantic ocean. In some places this elevation is sufficient to make a difference in temperature equal to from three to five degrees of latitude on the margin of the ocean. Mr. Jefferson maintained, that the temperature of the Valley of the Mississippi is higher than that of the Atlantic coast in corresponding parallels. Dr. Drake, Mr. Darby and others, maintain a contrary opinion. As far as I can learn, these last named gentlemen are right. Throughout the central line of the Valley, from the Gulf of Mexico to the lakes, I think that the mean cold of winter is greater by two or three degrees than on the Atlantic coast in corresponding parallels. Several facts show this. The Ohio at Cincinnati, and the Mississippi at St. Louis, the former of which is almost one degree, and the latter one and a half, south of Philadelphia, are about as much and as long frozen every winter, as the Delaware is at that city. The reasons for this difference in the climate of the Valley of the Mississippi and the Atlantic coast, are, 1st. That the former region has not the moderating breezes from the ocean —cooler in extremely hot weather, and warmer in extremely cold, than the winds from the land—which the latter region enjoys—and 2d. It is more elevated than the corresponding portions of the sea coast.

In the southern and middle regions of this Valley, the wide, level, and heavy timbered alluvial lands, are intrinsically more or less unhealthy. In these situations the new resident is subject to bilious complaints, to remitting fevers, and especially to fever and ague, the general scourge of the

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valley. The slopes of the Alleghanies; the interior of Ohio and Kentucky, Tennessee and Indiana, where the forest is cleared away, and stagnant waters drained; the high grounds of Illinois and Missouri; and the open country towards the Rocky Mountains, are as salubrious as any other region.*

2. *Minerals.*—Many parts of the West abound in valuable minerals. The eastern slope of the Ohio Valley abounds in iron ore, coal, and salt. These valuable minerals are also found in almost all the states. Vast quantities of iron are manufactured in Pittsburg, and its vicinity. Immense veins of coal are found in the same region, and also in Ohio and on the Missouri, in Kentucky, Tennessee, and Alabama, and will be sources of great wealth to the inhabitants in this valley, as there is reason to believe that this valuable species of fuel will be found in almost every state. Salt water is found in many places throughout this region, and is often discovered in springs, or "licks," as they are called, to which the wild deer and buffalos resort, in the uninhabited country, in vast numbers. Salt is manufactured in great abundance, on the Kiskiminitas, a branch of the Alleghany river; at Yellow Creek, near its junction with the Ohio above Steubenville; on the Kanawha, sixty-five miles above its mouth; on the Saline river thirty miles from Shawneetown, in Illinois; as well as in many other places.

In Washington county and the adjacent region in Missouri, there are lead mines of great extent and value. The principal "diggings," are included in an extent of fifteen miles in one direction by thirty in the other. This district is 70 miles south-west from St. Louis. About 3,000,000 pounds of lead are smelted in a year, giving employment to about 1200 men. The ore is principally of that class called *galena*, and is very rich, yielding from seventy-five to eighty per cent. There are also very rich mines of the same mineral at Galena, in the north-west corner of the state of Illinois, and on the Ouisconsin, in Huron district. In 1829, it is said that about 12,000 people were employed in the neighbourhood of Galena, and it is probable that from nine

*The reader will find in Chapter VIII. ample information respecting the climate and diseases of the Valley of the Mississippi.

to ten millions of pounds were made that year. A larger quantity, it is believed, is now made annually. A few years ago this place was in the possession of the Winnebagoes.

Ores of copper, antimony and manganese, have been discovered, but they are not yet wrought. It is probable that mines of gold and silver will be found in this region, as they are abundant in the neighbouring country of Mexico. I may add that gold has recently been found in Tennessee and Alabama. And I have little doubt that it will be found in Missouri, and the Ozark mountains, which stretch southwestward from that state.

3. *Soil, &c.*—The soil of the Ohio Valley, taken generally, may be considered *fertile*, but, in many places, it presents strong exceptions. Wherever the face of the earth in this valley is broken into hills, mountains, or vales, excellent fountain water abounds. In some of the more level parts of Kentucky, of limestone formation, in very dry seasons, there is a great scarcity of water. It would be difficult to find any other country of equal extent, where the natural features are more strongly contrasted. In regard to the *Upper Valley of the Mississippi*, timber is comparatively scarce, as much of the surface is occupied by prairies and lakes; extensive lines of alluvial soil of great fertility border the streams, particularly of the Mississippi, Illinois, &c. The prairies are of various soils, some very fertile, and others much less so, but extremely valuable for grazing. Immense herds of cattle and horses will be here raised for an eastern market, and the population will be great, though not so much so perhaps as in the Ohio Valley. With the exception of the alluvial banks of its numerous streams, the *Missouri Valley* is dry and sterile, and to a great extent destitute of timber and fresh water. I ought to add that much of this region is yet to be explored, and its soil ascertained. There is, unquestionably, good soil enough to sustain a large population, in this extensive valley. The *Lower Valley of the Mississippi* is the most variegated section of the United States; every form of landscape, every trait of natural physiognomy, and an exhaustless quantity, with an almost illimitable specific diversity of vegetable and metallic production, are found upon this extensive region. There are the cold, sterile plains and vales of the Rocky Mountains, the elevated and dry

grounds of the Arkansas; and the exuberant fertility, with the disease and death (to the unacclimated,) of the Delta of the Mississippi.*

The country lying along the Scioto and Miami rivers, in Ohio, that embraced in several counties around Lexington, in Kentucky, some counties of Michigan, large portions of Missouri, and those portions of Illinois, and Indiana, which lie along the Sangamon and Wabash rivers, are of surpassing fertility. Indeed the general fertility of the soil, and the luxuriance of the vegetation, are such as to fill with admiration the mind of one whose observation has been previously confined to the Atlantic and Northern States.

Nothing strikes the attention of a traveller upon his visiting this region, more forcibly than the immense forests which cover a large portion of the Valley of the Mississippi. That part of it which has been denominated the *Valley of the Ohio*, was sixty years ago, and is still to a great extent, a vast unbroken forest, presenting in the summer season, a most magnificent appearance. No prospect can be more grand than to stand upon the summit of the Laurel Hill, the last of the Alleghany range, and survey the extensive green scene which stretches out in the distance to the West. These forests are of a most luxuriant growth. The Vallies of the Upper Mississippi, the Missouri, and the Lower Mississippi, have immense prairies, or savannas, where the eye sees nothing, in the summer season, but, as it were, a vast ocean of waving wild grass, flowers of various hues, and of six or eight feet in height. There are, however, large forests of trees of extraordinary size, particularly along the margins of the rivers in these vallies.

4. *Trees.*—The brevity which I am compelled to observe, will not allow me to go into much detail in regard to the different species of trees. The sycamore is the prince of the western forests. It is often of great size, sometimes hollow, and of such dimensions as to have a cavity of several feet in diameter. Several have been found having cavities of from ten to fifteen feet in diameter, so as to accommodate a number of persons. This tree is found in all parts of the Valley, along the water courses. The ash,

* Darby's View of the United States, Vol. 1. p. 313, 314.

the elm, the oak of various species, are found in the greater part of the Valley. The sugar-maple abounds in the northern and middle parts. The walnut, the beech, and a great variety of other forest trees abound. The yellow poplar (liriodendron tulipifera) is a princely tree in various parts of this region, and next in size to the sycamore. The cotton wood is a large tree, and abounds along the lower course of the Ohio, and on the Mississippi. The catalpa on the Mississippi, is an elegant tree. The china tree is a beautiful shade tree, and is the ornamental tree of the towns and villages in the southern part of the Valley, and throughout all the Southern Atlantic cities from Florida to Virginia. The bow-wood is found on the Ouachita, (pronounced Washitaw). It is a splendid tree, bearing a beautiful flower, and a fruit which, although inviting to the eye, is the apple of Sodom to the taste. The dog-wood with its beautiful flower, the persimon, wild plum, crab-apple, mulberry, &c. abound in various parts. The pawpaw is found near Wheeling, and throughout the middle part of the Valley. Its splendid fruit is too well known to need description. The peccan with its fine fruit of the nut kind, is found in Illinois and Missouri. The magnolia with its beautiful flower is found in Florida and Louisiana, and some other districts. Mr. Flint thinks that it is not to be compared with the cotton wood, the sycamore, or the poplar, as it regards size. It is nevertheless a very large tree, not only in Florida, but also in the north-eastern angle of Louisiana, and in the southern part of the State of Mississippi, 40 or 50 miles east of the Mississippi river, as I well know. The cypress begins to be seen near the mouth of the Ohio, and is, with the swamp gum, the most common tree in the deep swamps, from that point to New-Orleans. This tree raises a straight column, from a cone-like buttress, to the height of sixty or eighty feet, and then throws out a number of horizontal branches, which interlacing with those of the others around, form an elevated umbrageous canopy. The cypress is a very valuable species of timber. Thousands of trunks of this tree are every year floated down to New-Orleans and other places, to be sawed at the Steam Saw Mills, or to be used for other purposes. Below 31° and along the Louisiana and Florida coasts, the live oak, *quercus sempervirens*, is found; valuable for ship timber. It is not a tall but a spreading

tree, and resembles at a distance a spread umbrella, and is remarkable for its solidity and durability. No country on earth is covered with a greater variety of useful trees, shrubs, and vines. The orange, the fig tree, the olive, &c. find a congenial climate and soil in the southern part of the Valley. The vine grows every where. The pine forests of the south can furnish millions of masts, spars, &c. &c. for our ships. *

5. *Animals.*—The deer, the bear, the fox, the wolf, &c. are too well known to need notice. The Buffalo now keeps his range on the sources of the Mississippi, the Missouri, the Arkansas, and their branches. There, in immense herds, he traverses the fields of his great domain. The Elk is abundant in the same region, far from the abodes of civilized man, which he shuns, and prefers the remotest plains which stretch along the Rocky Mountains, better known to the Red man who roams over the same dreary regions.—The beaver also lives in the same country. The panther has a wider range. The antelope, the white bear, the mountain sheep, and prairie dog, have so much fellowship with the beaver, as to inhabit the same distant land.

Birds.—As to the varieties of the feathered tribe, although exceedingly numerous, and good either for food or for song, I can only give them a passing notice. All the birds of the Atlantic slope are found in abundance here, and some which are not found there. The pelican, prairie hen, wild turkey, parroquet, pigeons, swans, cranes, wild geese, ducks, &c. &c. abound in various parts of the Valley.

Reptiles.—As to reptiles, they are the same, generally, as are found in the Atlantic States. The moccasin snake, the rattle snake, copper head snake, horned snake, hissing snake, bull snake, chameleons, lizards, scorpions, &c. &c. are the most famous of the reptile species.—As population increases, all such things become less formidable. The hogs and deer destroy vast numbers of them. The rattle, copper-head, and moccasin snakes, are very venomous. The alligator abounds in the rivers and marshes as far north as 34°. He is an unwieldy animal, but little dreaded by the inhabitants. Pigs, calves, &c. are sometimes destroyed by him.

* See Flint's Geography of the Western States, Vol. I. p. 46—75.

Fishes.—As to the variety of fish found in the rivers and streams of the Valley of the Mississippi, there is but little to be said that would be interesting in such a work as this. They are numerous, and have been described by Mr. Rafinesque and others, with much particularity and accuracy.

In the next Chapter, I shall give a brief History of the Valley of the Mississippi.

CHAPTER VI.

History of the Valley of the Mississippi.

HAVING given an account of the Geography and Natural Resources of the Valley of the Mississippi, I proceed to give a brief sketch of its civil History.

The English and Spanish dispute the honour of the discovery of this country. It appears, however, that Sebastian Cabot sailed along the shores of what was afterwards called Florida, but a few years after the discovery of America by Columbus.* It is said by Spanish authors that Juan Ponce de Leon discovered this country in the Thirtieth degree of north latitude in 1512. He gave it the name of *Florida*, made a landing, but was glad to escape from the fierce attacks of the Indians. He had discovered land on Easter day, and from that circumstance, gave the country the name of *Florida*, from the Spanish name of that festival, *Pasqua de Flores*—the Festival of Flowers. Between 1518 and 1524, Grijalva and Vasques, both Spaniards, landed on Florida. Their expeditions proved unfortunate, through their treachery. In 1528 Narvaez obtained a grant of Florida. He landed with four or five hundred men. But his expedition proved disastrous, and he was lost near the mouth of the Mississippi, by shipwreck. He

* See the very able and interesting Memoir of Sebastian Cabot, written by an American gentleman, (Richard Biddle, Esq. of the Pittsburg bar), and recently published. It is a work which does great credit to the author and his country.

first recorded the names of several of the Indian tribes. He was succeeded by Ferdinand de Soto, a man of great bravery and boldness, and of a chivalrous and enterprising spirit. He landed in Florida with one thousand men, marched into the Chickasaw country, was probably the first white man who saw the Mississippi river, which he crossed not far from the mouth of the Red River. On this river he sickened and died; and his followers not long after left the country.

In the year 1564, the illustrious Protestant, Admiral Coligny, established a colony of Huguenots, near the site of St. Augustine, which was sometime afterwards massacred in the most cruel manner, by the Spaniards, for the crime of being *Protestant heretics*. This act of cruelty was requited by Dominique de Gourgues, who hung the Spaniards on the same trees upon which they had caused the French to perish so miserably. Almost fifty years elapsed before we hear any thing more of the French in North America.

In 1608, Admiral Champlaine founded Quebec, and in the course of sixty years the French settlements spread over what is now called Upper and Lower Canada. Their hunters often made extended tours to the south and west. In their intercourse with the savages, they learned that there was a vast region in that direction, watered by a noble river whose course was towards the south. Excited by these representations, M. Talon, the Intendant of Canada, determined to settle the question whether that river did not flow into the Pacific, and so open a north-west passage. For this purpose he employed Father Marquette, a Jesuit Missionary, who had travelled much, and Joliette, a trader, to undertake an excursion for discovery. They went up the lakes to Michigan, and ascended the Fox River to its source, and crossed over to the Wisconsin, and descended that river to the Mississippi, which they descended, as some say, to the mouth of Arkansas, others to the mouth of the Missouri, and returned by the Illinois. They discovered the Mississippi on the 15th of June, 1673. The account which they gave of the wonders which they saw, induced M. de La Salle, a man of great enterprise, to undertake to explore the Mississippi. He set out in 1679 with a number of men, and spent the winter on the Illinois. He directed Father Hennepin, who accompanied him, to explore

the sources of the Mississippi, whilst he himself returned to Canada for supplies. But the Father, preferring to descend the noble river, tells us that he actually reached the mouth in sixteen days after he had left the mouth of the Illinois River, that is, from the 8th to the 25th of March 1680, and that he returned and visited the Upper Mississippi as far as the Falls of St. Anthony. He returned soon afterwards to France, and published an account of this wonderful voyage, dedicated his book to the great Colbert, and called the whole country *Louisiana*, in honour of Louis XIV. the reigning monarch of France. In 1683, La Salle founded the villages of Cahokia and Kaskaskia, in what is now the state of Illinois.

La Salle then returned to France, and endeavoured to convince the ministry of the existence of a great line of water communication of *four thousand* miles, from the Gulf of St. Lawrence, to the Gulf of Mexico; and of the importance of establishing a strong line of communication from one point to the other, and thus insulating the English settlements by this impassable barrier. In 1684, La Salle sailed from France, by order of the King, to discover the mouth of the Mississippi. He landed one hundred leagues to the westward of that point, in what is now called *Texas*, and after many misfortunes, and vain attempts to find that river, he set out to go by land to the French settlements in Illinois, and after undergoing incredible hardships, he fell by the hands of assassins among his own men, who conspired against him.

In January 1699, M. Ibberville arrived in the Gulf of Mexico, in the neighbourhood of the mouth of the Mississippi, with two frigates. He first landed on Dauphine Island; and on the 2d of March he entered the Mississippi with a felucca, together with his brother Bienville who accompanied him. Having ascended the river near one hundred leagues, they returned; Bienville proceeded down the main river, and M. Ibberville by the bayou, or outlet, which has ever since been called by his name, which leads into Lake Maurepas, Ponchartrain, &c. to the Gulf. M. Ibberville having settled his colony at Biloxi, a healthy, but sterile spot between the Mississippi and Mobile rivers, and erected fortifications, sailed for France, from whence he returned in autumn with two more frigates. During that and

several succeeding years, the work of exploring the country was carried on with vigour, and the whole valley was traversed, and several colonies planted. It was long, however, before the settlers turned their attention fully to the cultivation of the exuberant soil, instead of vain attempts to find the precious metals. And although much was done in the way of procuring peltry, &c. and in trading with the savages, yet these colonies were a source of much expense to the mother country. In five years preceding 1717, the balance against the parent country was 125,000 livres. On the 8th of January, 1702, the colony of Mobile was planted by M. Ibberville. Establishments were made in various places. Missions were planted by the Catholic Missionaries among various tribes of Indians, many of whom are now not extinct. For many years these colonies had to contend with many difficulties. Sometimes they were on terms of peace with their neighbours, the Spaniards in Florida and Mexico, and in league with them against the English, and the savages who were in alliance with them.

M. Ibberville died in 1706, and M. Bienville acted as governor for many years afterwards. During 1719 he founded the city of New Orleans, on the east bank of the Mississippi, one hundred and five miles from its mouth. In 1729 or 1730, the French utterly destroyed the *Natchez*, a powerful tribe of Indians, who had previously destroyed 700 French people in a quarrel which occurred in 1723. Various wars afterwards took place between the colonists and the Indians, Spaniards, and English. By wonderful adroitness and perseverance, the French had an extraordinary influence over almost all the savages throughout the whole valley. By successive arrivals of emigrants from France, the population increased rapidly in numbers and wealth.

The "Mississippi scheme," or "bubble," as it has been called, which was originated by John Law, in 1717, and which spread ruin throughout France, was upon the whole, highly beneficial to Louisiana, as it increased its population. The amount of stock created, and on which there was almost an entire failure, amounted to more than 310,000,000 of dollars. From the year 1736 the colonies in the southern part of the Valley of the Mississippi, or Louisiana, as the whole country was called, increased and flourished. Gene-

rally the best of terms were maintained with the savages. Agriculture was pursued. Valuable exports were made of cotton, indigo, peltry, furs, pitch, lumber, &c. &c. from New Orleans and other sea-ports in the vicinity.

In 1754, France and England commenced hostilities, on account of conflicting claims to territory. At the close of the war of 1744–'49, the French ceded Nova Scotia to the English. A long dispute occurred respecting its boundary: the French wishing to restrict it to what is now called by that name, and the English maintaining that it extended to the eastern line of what is now Maine, and north to the St. Lawrence. In the West, France claimed all the country west of the Alleghanies; and England, on the other hand, had granted to Virginia and other colonies charters which extended to the "South Sea," that is, the Pacific Ocean. And a grant of 600,000 acres was made to a company called the "Ohio Company," by Virginia and the Crown. The Governor of New France (as Canada and Louisiana were called,) protested, and stirred up the Indians, and commenced the erection of forts at Presque Isle, (now the town of Erie in West Pennsylvania,) on Le Boeuf, a branch of French Creek, and at the junction of the Monongahela and Alleghany. The Lieutenant Governor of Virginia sent Major Washington in 1753 to the French Commandant of these posts, to request him to desist. This embassy failed to accomplish the object. The next year a detachment was despatched to dislodge the French from Fort du Quesne, (now Pittsburg,) at the junction of the Alleghany and Monongahela. This charge was committed to Washington, who marched, the same year, with the rank of a Major, and having under his command four hundred men, to secure and fortify a position on the Ohio. He was surrounded and compelled to surrender, but on the most honorable terms, at Fort Necessity, on the ground which is commonly called the "Little Meadows," which lie on the national road from Cumberland to Wheeling, and about ten miles east of Uniontown. In 1755, General Braddock was defeated in the most calamitous manner, on the eastern bank of the Monongahela, about nine miles above Pittsburg, himself mortally wounded, and the shattered remains of his army conducted back, by Col. Washington. In 1758, '59, Du Quesne, Niagara, and Ticonderoga, were taken by the

English. The memorable victory of Wolfe at Quebec, made the English completely dominant in the Canadas in 1759, and the French humbled by repeated defeats by sea and by land, ceded, towards the close of that war, all the country west of the Mississippi, including the city and island of New Orleans, to the Spanish, by a secret treaty, made in November, 1762. At the treaty of Paris, in 1763, France ceded to England all her possessions east of the Mississippi river, and Spain ceded Florida to the English. In 1764, the English took possession of Florida, and the Spanish, under O'Reilly, took possession, in 1769, of Louisiana, limited in extent by the Mississippi on the east, as above remarked.

The American Revolution commenced in 1775, and ended in 1783. During this period the West shared but little in the conflict. General Clark captured the English force at Vincennes; and the Spanish, under Galvez, uniting with the French in espousing the cause of the United States, re-captured the English posts at Baton Rouge, Mobile, and Pensacola. Besides these events, nothing of importance during this war occurred in the Valley of the Mississippi. By the peace of 1783, England re-ceded Florida to Spain, and acknowledged the independence of the United States, ceding to them all the country north of the 31° of N. lat. After the peace of 1783, the circumstance which most deeply interested the increasing population of the West, was the protracted controversy with Spain, with respect to the line between the United States and the Floridas, and the right, on the part of the United States, to the navigation of the Mississippi to its mouth. After much sharp and painful controversy on these subjects, Spain ceded, by secret treaty in 1801, Louisiana to France. The latter power ceded it, April 13, 1803, to the United States, for the sum of 15,000,000 dollars.

During a period of more than fifteen years, after the Independence, the inhabitants of the West were harrassed by incessant attacks from the Indians on their borders. In 1790, General Harmar marched from Fort Washington, the present site of Cincinnati, with an army of 1,453 men. Within a few miles of the place where Chillicothe stands, a bloody, but indecisive battle was fought, commonly called Harmar's defeat. In November, 1791, General St. Clair,

with an army of 1,400 men, met with a most calamitous defeat near the Miami, in which more than 600 brave men were slain, and 265 wounded. The Indians, flushed with success, increased their depredations and massacres. It has been proved that between 1783 and 1790, no less than 1,500 people of Kentucky were massacred by the savages, or dragged into a horrid captivity: and that the frontiers of Pennsylvania and Virginia suffered a loss not much less. In 1793 the government sent Gen. Wayne against the Indians, who, with an army of 3000 men, on the 20th of August, 1794, at the Miami of the Lake (or Maumee as it is now called), gave them a tremendous defeat. The consequence was a general peace among all the tribes of Indians, in the West and South, which was secured by the treaty of Greenville, August 3, 1795. In the year 1794 an insurrection (occasioned by duties laid on spirits manufactured in the United States.) in the western part of Pennsylvania, was quelled without the shedding of blood.

In 1812, the late war with Great Britian commenced. The Valley of the Mississippi was the theatre of many of the events of that contest. In the northern parts of it were the battles of Tippacanoe, Mississinewa, River Raisin, Forts Meigs and Sandusky, the victory on Lake Erie, the capture of Detroit and Malden, and the defeat of the British army under General Proctor on the Thames. In the south were the bloody and decisive battles, with the Indians, at Tallushatchie, Talladega, Emuckfaw, Tohopeka, the attack upon Fort Boyer, the capture of Pensacola, and the victory at New Orleans. The events of that war are too recent to need a more particular notice. It terminated in the early part of 1815. It was s metime, however, before the ruinous effects of the war ceased. Every species of speculation was carried, for a while, to a ruinous excess, and several years elapsed before public confidence was completely restored.

Some Historical notices of each state in the West will be given when I come to that part of the work.

CHAPTER VII.

Future increase of Population.

HAVING in the last Chapter given a brief and general History of the Valley of the Mississippi, I proceed now to make some remarks upon the rapid increase of population in that region, and assign some reasons for believing that it must continue to increase at a rapid rate, for a long period, in future.

The first *French* settlements in the Valley of the Mississippi were made in the latter part of the Seventeenth Century. In 1699, Bienville and Ibberville planted a colony at Biloxi, which is in the southern extremity of what is now the state of Mississippi. During the twenty years preceding, colonies had entered the upper end of the Valley from Canada, then a part of the French dominions, and had settled at Cahokia, and Kaskaskia, in what is now Illinois; at Detroit, in Michigan Territory; and Vincennes, (or Post Vincent, as it was called,) in Indiana. These colonies were small, for a long time, and chiefly for trading posts, and not for agricultural purposes, at least not so to any important extent.

It was not until the middle of the Eighteenth Century, or about 1750, that the *English* began to make attempts to colonize that country. It has sometimes been asserted, that Daniel Boone was the *first* conductor of an English colony to the West. This is true of Kentucky, and that part of the Valley. This event occurred in 1775. A Mr. Finley, from North Carolina, visited this state in 1767, and again he and Boone visited it, and to a considerable extent traversed it, in 1769 and 1771. In 1773 Boone advanced with a colony of 40 or 50 persons; but being attacked by the Indians, they returned to Clinch river, and the party remained there two years—and in 1775 removed and settled on the site of what is Boonesboro' at this time. But it is far from being the fact, that this was the first English

colony that was led to the west. In the western part of Pennsylvania, a colony was planted, in what was long known by the name of the "Redstone Settlement," (the chief fortified place in which was "Old Fort," now Brownsville, on the Monongahela,) several years before 1775. Immediately after the peace of Paris, in 1763, by which the eastern and northern parts of the Valley of the Mississippi were ceded to Great Britain, emigrants began to plant themselves in West Pennsylvania and Virginia, and Pittsburgh became the centre of these colonies. Even before this event, colonization had commenced in that quarter. Indeed, it was partly owing to efforts to plant a colony in that region, prompted by the inducements held out by the British government, and particularly through the Governor of Virginia, that the "French war," as it was and is still called, had its origin, and which was commenced in 1754, and ended in 1763.

But English settlements were also early made in East Tennessee. As early as 1755, companies from North Carolina and Virginia visited that country for the purpose of hunting. In 1757, Fort Loudon was built on the Little Tennessee; and the next year, some settlements were made on the Holston, which were destroyed when Fort Loudon was captured by the Cherokees, in 1760. In 1768, more permanent settlements were made in East Tennessee, which continued amid various vicissitudes, and finally flourished.

For a long period the advance of emigration, into West Pennsylvania, West Virginia, Kentucky, and Tennessee, was slow. Encountering the most formidable difficulties, and drenching every step of their progress with blood, shed by the hands of unsubdued savage foes, not less than *three thousand* persons were either murdered or carried into a horrible captivity, (from which but few of them ever returned,) in these early settlements, before the year 1790. Before the close of the next eventful period of ten years, comparative quiet, and protection from Indian attacks, were obtained, but not without several bloody battles, lost or won. But it was not until fifteen years more had passed away, that is until 1815, only seventeen years ago, that entire security was afforded to the settlers in every part of the valley.

It was owing to the dangers arising from the hostile Indians, as well as to many other obstacles, which I shall in-

cidentally show hereafter, that the population of the West increased so slowly during the first twenty-five years—that is, from 1765 to 1790. At the last named date, it did not much exceed 150,000, by actual enumeration. From that period, it increased more rapidly, although much more slowly during the first, than the last half of the subsequent forty years. The present population will appear from the following table:

	POPULATION. In 1820.	POPULATION. In 1830.
West Pennsylvania,	244,862	337,846
West Virginia,	147,514	204,173
Ohio,	581,434	937,903
Indiana,	147,178	343,031
Michigan Territory,	8,919	31,639
Illinois,	55,211	157,445
Missouri,	66,586	140,455
Kentucky,	564,317	687,917
Tennessee,	422,813	681,904
Arkansas Territory,	14,274	30,388
Mississippi,	75,448	136,621
Louisiana,	153,407	215,739
Alabama,	143,000	309,527
West Florida, (about)		17,362
	2,624,963	4,231,950

No estimate is here made of the population of the western parts of Georgia and North Carolina, and the south-western angle of New York.

From the above table it appears, that during the last forty years the population of the Valley of the Mississippi has increased from 150,000 to 4,231,950; and we have reasons for believing, that it will continue to increase at a very rapid rate, for a long period. The present rate of increase is such, that the whole population in that region is doubled in about *eleven years*. I shall proceed to give some reasons why the population must increase very rapidly for a long period.

1. The first reason which I shall mention is derived from the fact, that there is now the most perfect security

enjoyed by the inhabitants both as it regards their personal safety and that of their property.

The emigrants to the west, in early times, and even down to the close of the late war with Great Britain, encountered dangers on the frontiers which none but they could overcome. We have all heard of Indian wars, and of the cruel massacres which have almost always followed Indian victories. But the half has never been told. Under the colonial government, strong inducements were held forth to promote emigration and settlement in the west. Even as early as 1750, attempts were actually made to plant colonies in the western parts of Pennsylvania and Virginia, and the adjoining parts of what is now the State of Ohio. But, with few exceptions, none went who either remained in their new abodes, or returned again to the land of their birth. It has been estimated, that in the short period of *seven* years, from 1783 to 1790, more than *fifteen hundred* of the inhabitants of Kentucky were either massacred or carried away into a captivity worse than death, by the Indians; and an equal number from Western Virginia and Pennsylvania in the same period, met with a similar fate. The settlers on the frontiers were almost constantly, for a period of forty years, harrassed either by the actual attacks of the savages, or the daily expectation of them. The tomahawk and the scalping knife were the objects of their fears by day and by night. But *now* the case is widely different. After the loss of many gallant men, who perished in the many battles which occurred, the Indian tribes are subdued; and even to the sources of the Missouri and the Mississippi, they generally manifest a friendly spirit. It is indeed a matter of great thankfulness to a christian mind, that they are, to so great an extent, desirous of education, and instruction in the arts of civilized life, and are willing to hear of the way of eternal life. And *now* the inhabitants on the Mississippi and the Arkansas, the Missouri and the Alabama rivers, live in as perfect security as do those on the Hudson and the Delaware, the Susquehanna and the Potomac.*

*This was true when this portion of the book was written. On the Illinois frontier there has been an interruption of the peace which then prevailed. But this interruption will be, it is hoped, of short duration.

2. There is in the Valley of the Mississippi an immense extent still of the finest land in the world, which may be purchased at the small sum of *one dollar and a quarter per acre;* and the prospect is that it will be attainable for even a smaller sum.

There are probably, at a reasonable calculation, *one million* of square miles, or 640,000,000 *acres* of land fit for cultivation in the Valley of the Mississippi—equal to 4,000,000 *farms*, or *plantations*, of 160 acres each; or 8,000,000 of farms, of eighty acres each, a quantity of land which, in New England, would be considered very ample for one family. It is, indeed, probable, or rather it is certain, that it will not all be needed for agricultural purposes for a century or two. I have said that there are 1,000,000 of square miles which may be cultivated. The whole valley, however, contains more than 1,350,000 square miles, so that I allow more than 350,000 square miles for *mountainous regions*, for *marshes* and *swamps*, and for *sterile plains*, and *prairies*, towards the Rocky Mountains. But I would remark, that excepting the skirts of the Alleghany and Rocky Mountains, there is scarcely any thing which deserves the name of a *mountain* in the whole valley; and as to the swamps and marshes, the day will come when many of them will be drained, either by the State or General Government. And even the prairies, excepting the very sterile, which are less extensive than most suppose, will be turned to good account. And it ought to be remembered, that forests are as necessary for a dense population, as cultivated ground is. There must be large tracts of uncultivated land, to afford fuel, and timber, and pasturage.

Four millions, or rather *eight* millions, of families may have farms in the West of no mean size. Besides, thousands, or rather hundreds of thousands of families will be engaged in the navigation of the rivers; in the various arts, and trades, and manufacturing processes, which even now employ and support a large population; in merchandise and commerce; and in the learned professions of law, medicine, divinity, and the instruction of youth in thousands of common schools, hundreds of academies, and colleges, and universities. The facilities for supporting a family in the Valley of the Mississippi, not indeed equal in all places, are such as would astonish an eastern resident, who knows little or nothing

about this region. It has been correctly said, that "nature has been almost too profuse in her gifts to this great valley." Such is the fertility of soil, and other natural advantages, that too little industry is required, for the proper developement and strengthening of the valuable traits of human character. It is true, indeed, that industry, and perseverance, and frugality are needed, especially by the emigrant upon his arrival; but he will, by a few years of toil and energy, acquire the means of *living*, without a very constant application of his powers of body and mind. A little effort, comparatively, will enable him to support his family, and live in comfort.

3. *The increased facilities of emigration to that region, and of the introduction of such articles as are necessary to the support and comfort of the inhabitants.*

These facilities will appear the more manifest and striking, if we compare the present with the past. Fifty or sixty years ago, when the first emigrants crossed the Alleghany Mountains, these great natural boundaries presented almost insurmountable obstacles. There was then, and for a long period afterwards, no road that could be travelled by a wagon, with any convenience. Merchandise of every description—even salt and iron—had to be carried across on horseback: and this was almost the only mode by which a family could cross these mountains. It was then a matter of great toil and difficulty, requiring a long time, to remove a family to the West. There are many still living who well remember these toils. These subjects employ many an hour of the evenings of many a western sire, as he relates the hardships of his early days, and the dangers which he encountered in removing to this new world. The frequent relation of these interesting events serves to gratify the good-natured loquacity of old age, and to while away, in a pleasant manner, the long and tedious hours of a winter night.

But how different is the state of things at present! It is almost an affair of nothing to cross this once formidable barrier. There are thousands of men in the West who have crossed it from fifty to one hundred times. There are at least *twelve* good roads, several of them turnpikes, across these mountains, in various parts, from Lake Erie to the Gulf of Mexico. There are not less than *fifteen* lines of stages, which now cross these mountains; thus uniting the

western with the eastern cities. Some of these lines run once a week, but the most of them three times a week; and six, at least, now start daily. Throughout the whole year, hundreds of wagons pass and repass on each of these routes, carrying the productions of the Atlantic slope, and the merchandise from Atlantic cities, to the Valley of the Mississippi; and sometimes carrying the productions of the West to the East. And thousands of these wagons annually carry out the families and household property of eastern or foreign emigrants, who are seeking a home in the distant West. Whole caravans of families moving onward, are continually met by the traveller, as he journeys to the East.

I have often stood and viewed with wonder whole caravans of emigrating families, having sometimes a dozen wagons in company, as they passed along the streets of Louisville, Cincinnati, Brownsville, Pittsburg, or Wheeling. I have a thousand times met them on the summits of the Alleghanies; and, as they passed, wagon after wagon, the women and children sometimes riding, and often walking after in a scattered line, and the men driving the teams, or urging on the live stock, I have been reminded of the beautiful lines of Virgil, which represent the Trojan Prince supporting the drooping spirits of his followers amid the toils of a long and perilous voyage. With a *verbal* change, not affecting the *rythmus*, and scarcely the *sense*, it might be used by many a father of a family, as he pursues his long and toilsome way across these lofty mountains, seeking a new residence, in an almost unknown land:

> Per varios casus, per tot discrimina rerum
> Tendimus Hesperiam, sedes ubi fata quietas
> Ostendunt.

Canals and rail-roads are now constructing through the Alleghany range. The *Pennsylvania*, and the *Chesapeake* and *Ohio* canals are now in progress. Soon the James River and Kanawha Canal will be undertaken. Others will follow. A rail-road—the *Baltimore* and *Ohio*—to increase the facilities of inter-communication between the East and West, has been commenced under favourable omens. In a few years, probably, a national road from Washington to New Orleans, will add another line of communication

between the Atlantic slope and the Valley of the Mississippi.

But this is not all. On the southern boundary of the valley is a line of coast of 1100 miles, containing many points of access to this vast region. Thousands of emigrants enter the Valley of the Mississippi from this direction, preferring a voyage around Cape Sable, to a journey across the mountains. I have seen the large steam-boats on the Father of rivers, carrying, besides some hundreds of tons of merchandise, four or five hundred emigrants, from Germany, Ireland, or other foreign lands, who had landed at New Orleans, to the central or upper parts of the valley. On the other hand, the extended chain of lakes affords, on the north, a similar and more easy manner of communication with the Valley of the Mississippi. Not less than *ten steamboats*, and sixty sail of vessels of all sizes, on Lake Erie alone, are exchanging the products of the East and West, and annually transporting thousands of emigrants to the Valley of the Mississippi.

These numerous natural and artificial channels of intercourse between the East and West, by which emigration and commerce are consequently very greatly promoted, are objects of deep interest to every American; for they are among the most powerful bonds by which our union will, under the blessing of God, be perpetuated. Natural boundaries have hitherto, all the world over, divided the inhabitants of the earth into separate and often hostile nations. But with us, neither the Alleghany nor the Rocky range of mountains will constitute a "wall of separation" to sever our union. The natural and artificial facilities of intercourse, which I have described above, give unity to our feelings and our interests. And so great is the emigration from the East to the West, and so wide the consequent dispersion of the families which compose this nation, that innumerable chains to bind us together as a people, extend over our vast country, in the natural relations of life, in the friendships of our youth, as well as in the duties which the laws of our common country and our common Lord enjoin upon us.

4. Another reason for the rapid increase of the population of the Valley of the Mississippi in future, is to be found in the *increased facilities for trade and intercourse between the different sections of it.*

Probably no country on earth, of equal extent, has so many advantages as to facilities for intercourse, as the Valley of the Mississippi. A thousand streams, navigable at least during several months every year, and the many canals which are now constructing afford convenient channels of commerce and intercourse in every part of this vast region. Several thousand flat-bottom boats convey annually the productions of the various sections of this region to the sea-ports in the southern parts of it, particularly to the great emporium of the West, the city of New Orleans. And hundreds of keel-boats, at seasons of low water, carry the productions of the southern, and of foreign climes, to the northern part of it. But it is the introduction of *steam-boats* into this vast region, watered by large rivers, some of which are many hundreds of miles in length, which has greatly increased, of late years, the facilities for trade and emigration. No other country on earth will be benefited to an equal extent by this wonderful invention. It has already made a revolution in the commercial affairs of the West. Instead of spending many months in warping a barge, or "cordelling," and "poling," and "bush-whacking"* a keel-boat from New Orleans to Pittsburg, against the impetuous current of the Mississippi and Ohio, a steam-boat now makes the voyage in fifteen or twenty days, stopping also at all the intermediate places of importance. Not only has *time* been gained, but the expense of travelling, and of transporting goods, has been diminished *three or four-fifths.*

I will here give an interesting extract from the Cincinnati Daily Gazette, relating to steam boats in the West:

"The first steam boat built on the western waters of which the writer of this article has any record, was the New Orleans, of 350 tons, built at Pittsburgh in 1811; and he has no account of more than *seven* or *eight* built previously to 1817. From that period they have been rapidly increasing in number, character, model, and style, of workmanship, until 1825, when two or three boats, built about that period, were declared, by common consent, to be the first in the world. Since that time, we are informed, that some of the New York and Chesapeake boats rival, and probably surpass us, in richness and beauty of internal decorations.

* A mode of propelling a boat up a stream by pulling by the branches of the trees which overhang the water.

"As late as 1816, the practicability of navigating the Ohio with steam boats was esteemed doubtful. None but the most sanguine augured favourably. The writer of this well remembers that in the year 1816, observing, in company with a number of gentlemen, the long struggle of a stern-wheel boat to ascend 'Horse-tail Ripple,' (five miles below Pittsburg,) it was the unanimous opinion, that such a contrivance might conquer the difficulties of the Mississippi as high as Natchez, but that we of the Ohio must wait for some more happy century of inventions. In 1817, the bold and enterprising Captain Shreve (whose late discovery of a mode of destroying snags, and improving western navigation, entitles him to the reputation of a puplic benefactor,) made a trip from New Orleans to Louisville in *twenty-five days!* The event was celebrated by rejoicing, and by a public dinner to the daring individual who had achieved the miracle. Previous to that period, the ordinary passage of barges, propelled by oars and sails, was *three months!* A revolution in western commerce was at once effected. Every article of merchandise began to ascend the Mississippi, until we have seen a package delivered at the wharf of Cincinnati, from Philadelphia, via New Orleans, at *one cent per pound!* From the period of Captain Shreve's celebrated voyage till 1827, the time necessary for the trip has been gradually diminishing. During that year, the Tecumseh entered the port of Louisville, from New Orleans, in *eight days and two hours*, from port to port.*

"Since the introduction of steam boats, the memorandum before me furnishes a list of 343, (since increased to about 450,) of which probably about 225 are *now* running, whose united tonnage may be estimated at about 56,000 tons, employed during this period on the Mississippi, Ohio, and their branches. The largest size rate about 500 tons; but a large majority of them are under 250 tons.

"The average cost of a steam boat is estimated at $100 per ton.† The repairs made during the existence of the boat amount to one-half of the first cost. The average duration of a boat has hitherto been about four years. Of those built of locust lately, the period will probably be about two years longer."

* Even this has been since outdone.

† This is quite too high. See the Chapter, in this work, which relates to the steam boats of the West.

The number of steam boats (when this was written,) in actual commission, is stated by this writer at more than two hundred; the average tonnage of which may be stated at 175 tons, making the amount employed 35,000 tons.—The annual expenditure for fuel alone is estimated at $1,181,000. The other expenditures are calculated, by the most intelligent owners, at *one million three hundred thousand dollars;* making the present total annual expenditure nearly *two million five hundred thousand dollars.* The writer adds—"We cannot better illustrate the magnitude of the change in every thing connected with the western commerce and navigation, than by contrasting the foregoing statement with the situation of things at the time of the adoption of steam transportation, say in 1817. About twenty barges, averaging about one hundred tons each, comprised the whole of the commercial facilities for transporting merchandize from New Orleans to the upper country. Each of these performed one trip down, and up again to Louisville and Cincinnati within the year. The number of keel boats employed on the Upper Ohio cannot be ascertained, but it is presumed that 150 is a sufficiently large calculation to embrace the whole number. These averaged thirty tons each, and employed one month to make the voyage from Louisville to Pittsburg; while the more noble and dignified barge of the Mississippi, made her trip in the space of one hundred days, if no extraordinary accident happened to check her progress.

"The Mississippi boats now make *five* trips within the year, and are enabled, if necessary, in that period, to afford to that trade 35,000 tons. Eight or nine days are sufficient, on the Upper Ohio, to perform a trip from Louisville to Pittsburg and back. In short, if the steam boat has not realized the hyperbole of the poet, in annihilating time and space,* it has produced results scarcely surpassed by the introduction of the art of printing."

* To give the reader an idea of the effect of steam boats in diminishing distance, in the estimation of the western people, I would state, that Mrs. General Clarke, of St. Louis, told me, not long since, that a year or two ago, she, together with a party of gentlemen and ladies, took a little excursion of pleasure, (for the purpose of spending a Fourth of July,) in a steam boat, up to the Falls of St. Anthony, a distance of only about nine hundred miles!

I will only add, that there are four steam boats on the Appalachicola and Chattahooche; thirteen on the Mobile and its branches, the Alabama and Tombigbee; several in the Opelousas trade; three on Lakes Ponchartrain, and Borgne, and the Pearl river; while, as I have mentioned before, there are ten on Lake Erie, which trade with the ports on the south side of that lake, and of those above. Of the two hundred on the Mississippi and Ohio and their branches, there is no stream of sufficient size which is not entered by some of them. Every little river has one or more steam boats. In a few years the number will be doubled. Every river from Cape Sable to the Sabine, and from the mouth of the Mississippi to the Yellow Stone and the Alleghany, will be covered with them, whilst they will abound not only on Lakes Ontario and Erie, but also on Huron, Michigan, and Superior.

5. The fifth reason which I shall mention, for the future rapid increase of the population of the Valley of the Mississippi, is, *the increased confidence in the general salubrity of the climate of that country.* I can well remember what fearful apprehensions were entertained, by emigrants to the West, on this subject. The fevers of the Muskingum, Miami, Wabash, and Kentucky, were objects of the greatest dread. Now they are little dreaded. A careful attention to health, an avoidance of exposure during the autumnal season, while the process of *acclimation* is going on, and a timely application of the medicines which an increased knowledge of the *materia medica*, and especially of the *character* of the diseases of this region, will soon ensure to the emigrant as good health as the inhabitants of the East enjoy, and much better, even along the rivers, than the dwellers on the Delaware and the Susquehanna, the Juniata and the Potomac, have of late years enjoyed. There are portions, unquestionably, of the lower part of the Valley, particularly the level, low, and swampy alluvial bottoms along the rivers, which will be unhealthy to those who are not acclimated.

6. *The increased and increasing religious and literary advantages and privileges which emigrants to the West may now and henceforth enjoy.* I am far from asserting, that these privileges and advantages are as great as it is desirable that they should be. But they are rapidly increasing. In many places, particularly in the large towns and cities, they

are as great as in the Eastern towns and cities; whilst great efforts are now making to supply every destitute neighbourhood with these advantages. Within the last five years astonishing efforts have been *commenced*, (and they are but commenced,) by the friends of religion, both in the East and West, to dispense bountifully, Bibles, to those who are destitute of them, to establish Sabbath Schools, to send the living preacher to destitute neighbourhoods, to promote the Temperance reformation, to plant Colleges and Theological Seminaries, &c. No one can for a moment doubt, that these efforts will greatly promote the increase of emigration to that region. A noble beginning has been made in these things, but much, very much, remains to be done. In what has been commenced, we have an earnest of what will be accomplished.

7. A seventh reason is to be found in the fact that there is already a great amount of intelligence, and of interesting society, in all the settled parts of the Valley. The idea is no longer entertained by Eastern people, that to go to the West, or the "Back Woods," as it formerly was called, is to remove into a heathen land, to a land of ignorance and barbarism, where the people do nothing but rob, and fight and gouge! Some parts of the West have obtained this character, but most undeservedly, from the *Fearons*, the *Halls*, the *Trollopes*, and other ignorant and insolent travellers from England, who, because they were not allowed to insult and outrage as they pleased, with Parthian spirit, hurled back upon us their poisoned javelins and darts as they left us. There is indeed much destitution of moral influence and means of instruction in many, very many, neighbourhoods and towns in the West. And noble and successful efforts are making by the Bible, Missionary, Tract, Sabbath School, Temperance, Education, and Seamen and River Men's Societies, to remove it, and to keep the march of knowledge and religion equal to the gigantic march of emigration and population. But there is in all the principal towns of the West a state of society, with which the most refined, I was going to say the most fastidious, of the Eastern cities, need not be ashamed to mingle. It has even become a fashionable way of spending a part of the year, to visit the most interesting cities and places of the West, to view their rising greatness, see the curiosities which abound in them

and their vicinities, and enjoy the cordial and even elegant hospitality of their inhabitants. Even the "exquisite," from Philadelphia, New York, Baltimore, and Boston, is to be seen in the streets and the shops of Cincinnati, Lexington, Louisville, New Orleans, and a hundred other places, and finds that even his delicate personage can pass along not only with *safety*, but even without *molestation*, save a little merited ridicule! The Eastern emigrant will find, that wholesome legislation, and much of the influence of religion, are enjoyed in the Valley of the Mississippi, extending to him the enjoyment of his rights and the protection of his property. There are twelve organized State and Territorial Governments. And I ought to add, that although common schools are not as good as they should be, yet there is an increasing attention to them. One state (Ohio) has recently commenced a good common school system, and other states will soon follow her example. And Sunday schools will soon be planted wherever there is a sufficient population. There are now twenty-five or thirty colleges actually in operation; two or three medical institutions; five or six theological seminaries, and several schools of a higher character than common, besides a large number of academies. These Institutions are indeed in their infancy, but they afford an education but little, and some of them not at all, inferior to what may be obtained in the East. I merely allude to this topic at present; I shall have occasion hereafter to mention particularly every literary institution of importance. I only speak of it now, as a fact calculated to exert a powerful influence upon the intelligent in the East, who may think of removing to the West.

I have thus given, as briefly as possible, the reasons which, to my mind are sufficient to show, that for a long period the population of the Valley of the Mississippi must continue to increase at a very rapid rate, if not indeed at the same rate at which it has increased during the last twenty or thirty years. Let us glance, for a moment, at the difficulties which stood in the way of emigration thither during the last fifty years. At the commencement of that period, the war of the Revolution was just ceasing: the country was embarrassed; the savages in the West were numerous and powerful, and almost all hostile to us. A few settlements had been made in Western Pennsylvania and Vir-

ginia, Kentucky and Tennessee. During the first fifteen years, these colonies advanced, but it was amidst tears and blood: roads were opened with great difficulty across the Alleghanies: the diseases of the country were not well understood, and death cut off many of the emigrants. During that period and until 1803, the trade on the western rivers was embarrassed by the "occlusion," as it was called, of the Mississippi, by the Spanish, who had possession of Louisiana, and with whom our government had a protracted and violent controversy during nearly twenty years. Then succeeded the Indian depredations and massacres on the frontier, until the close of the late war in 1815; together with the embarrassments occasioned by that war and the embargoes which preceded it. Then came the rage of speculation, and the consequent period of gloom occasioned by "making haste to be rich," and aggravated by injudicious legislation in some cases, in the shape of relief laws, &c. &c. But *now*, how different is the prospect! May it not be overclouded by any untoward event!

The following statement extracted from the Report of the Commissioner of the General Land Office, exhibits the total sales of lands in each state and territory in the Valley of the Mississippi, (excepting the western parts of Virginia and Pennsylvania, Kentucky, and Tennessee,) during nine years and a half—that is, from the 1st of July, 1820, to the 1st of December, 1829. This document must prove interesting to every citizen of our country, as it goes to show the immense purchases of its lands, the consequent increase and spread of its population, and its additional strength and improvement.*

	Acres.	100*ths.*
In Ohio,	1,405,267	73
In Indiana,	2,169,149	70
In Illinois,	667,200	44
In Missouri,	923,506	32
In Alabama,	1,459,054	78
In Mississippi,	544,523	82
In Louisiana,	158,839	35
In Michigan,	443,209	23
In Arkansas,	59,899	36
In Florida,	336,567	50

* In 1830, the sales of public land in the West amounted to $2,329,356; and in 1831, to $3,000,000!

The preceding statement shows not only the rapid settlement of the West during the last ten or eleven years, but also the relative size, if I may so express myself, of the column of emigration to each of the states which are named.

In 1790, Kentucky became an independent state, and was admitted into the Union; in 1796 Tennessee was received into the Union; Ohio in 1803; Louisiana in 1812; Indiana in 1816; Mississippi in 1817; Illinois in 1818; Alabama in 1820; and Missouri in 1821. The Territory of Michigan was organized in 1805; Arkansas in 1819; and Florida in 1822. Within ten or fifteen years from this time, Arkansas, Michigan, and Florida will become states; and probably another will be formed in the District of Huron, on the Upper Mississippi. Should the West increase in population, for the next forty years, in the same ratio in which it has increased during the last forty, the majority of the population of the Union will be in the Valley of the Mississippi before the end of that period. That such will be the fact does not admit of a question; it is conceded by all who have paid any attention to the subject.

CHAPTER VIII.

Climate and Diseases.

1. CLIMATE.—The vast extent of the Valley of the Mississippi, necessarily imparts to its climate a diversified character. The new states and territories already organized within its limits, are ten in number;* while portions of two of the old states extend into the same region. The new may be divided into the warm and temperate. The former are Louisiana, Mississippi, Alabama, and the southern half of the territory of Arkansas—the latter, Tennessee, Kentucky, Ohio, Indiana, Illinois, and Missouri. The first group lie between the latitudes of 30° and 35°; the second, extend from the parallel last mentioned, to that of 42°. Hence the first division corresponds with South Carolina and Georgia—the second with North Carolina, Virginia, Maryland, Delaware, Jersey, and the southern

* Exclusive of Florida and Michigan.

part of New-York. In estimating the change of climate to which emigrants from the old states will subject themselves, in settling in the new, it should be recollected, that Tennessee lies in the rear of North Carolina, Kentucky of Virginia; and that Ohio, Indiana, Illinois, and Missouri, stretch out behind Pennsylvania, Maryland, Delaware, New Jersey, and the southern part of New York. The New Englander, and New Yorker north of the mountains of West Point, should bear in mind that his migration is not to the *West*, but *South West;* and as necessarily brings him into a warmer climate as when he seeks the shores of the Delaware, Potomac, or James' River.

Besides variations of latitude, several causes conspire to produce diversities in climate. Between the Lower Mississippi states, and the portions of the old states corresponding with them in latitude, these causes are neither numerous nor powerful; and hence, on the same parallels, their differences of climate are less than the differences between the upper states of the great valley, and corresponding portions of the Union near the sea board. First—The elevation of the land above the surface of the ocean, is nearly the same in Louisiana, Arkansas, Mississippi, and Alabama, as in Georgia and South Carolina. Second—Their geographical relation to the sea is similar. Third—Neither of them is contiguous to mountains, except the north-west portions of South Carolina. Hence, the emigrant from the banks of the Santee or the Savannah River, to those of the Lower Mississippi or Red River, if he keep in the same latitude, will experience but little change of climate. He will observe, however, in his new residence, that north-east winds, attended with cool rains, are less frequent; and, on the contrary, that the south-west wind is more prevalent, and perhaps more humid—as it does not, like that of the country he has left, undergo the modifying influence of the peninsula of Florida. The northern parts of Alabama and Mississippi, are occasionally visited with snows several inches deep, and frosts that congeal the surface; but their duration is transient; while in the southern parts of the same states, in Arkansas and Louisiana, these phenomena are much rarer. In their upland parts, these warm states have, on the whole, winters which are dry, frosty, and bracing: in the maritime portions, raw, humid, and rainy. In the former,

the summers are fair, and not intemperate; in the latter, hot, infested with thunder gusts, and often sultry.

The inhabitant of New England, or indeed of any of the old states north of the Potomac, who starts on a migration to the states which are bounded on the south by the Gulf of Mexico, should be prepared to encounter a decided change of climate, consisting in increased heat throughout the year, and especially in a prolonged summer—in more copious rains, and in a greater prevalence of south-west winds.

The emigrant from the shores of the Mediterranean, will find in this portion of the Valley of the Mississippi, the nearest approach to his own climate, though eight or ten degrees further south; but he should prepare himself for greater extremes between summer and winter, than he has been accustomed to in Italy, or the south of France.

The greater emigration to the Upper, or temperate Mississippi states, than to the Lower, renders the study of their climate, compared with that of the Atlantic states and Europe, more interesting than the inquiry through which we have just passed.

As in most cases, it is not less useful to inquire into causes than to look merely at effects, I shall direct the attention of those who contemplate an emigration from the Atlantic to the Western states, to some of the circumstances which may be presumed to modify the climates of the two regions.

First—The Atlantic states have an ocean on one side, lakes on another, and mountains, between 2 and 3000 feet high, on a third—the first and last of which are so contiguous to the emigrating portions of these states, as to exert a decided influence on their climate. On the other hand, the Upper, or temperate Mississippi states, are remote from the sea, and comparatively remote from mountains; but have on one side more extensive lakes than those which skirt the Atlantic states. The ocean lies to the *east* of the latter, and the Alleghany Mountains to the *west*; while the states in the interior have the Lakes to the *north*, and the Alleghanies to the *east*—varieties in the physical geography of the two sections, that cannot fail to exert an influence on the temperature and humidity of their winds. Thus, the north-east, east, and south-east winds of the sea board, are always much more damp than those of the interior. In spring,

summer, and autumn, they bring more copious rains; and in winter, deeper snows. They are also more frequent and violent than in the Upper Mississippi states. Finally, in winter they are warmer; and in summer, as coming from the surface of the ocean, would be more fresh and temperate than in the Valley of the Mississippi, were it not for the Alleghany mountains, which cool the currents that roll over them to that region. These mountains, on the other hand, reduce the temperature of the south-west and west winds, which blow from the interior of the continent towards the ocean, and give to the people of the middle maritime states, a succession of less sultry breezes in summer than envelope their brethren in the west. For the same reason, the north-west wind is drier and colder, at the same season, on the leeward than the windward side of the Alleghanies.

Second—The courses of rivers, by changing in some degree the direction of the winds, exert an influence on climate. In the Atlantic states, from New England to North Carolina, the rivers run more or less to the south-east, and increase the winds which blow from the north-west, while the great bed of the Mississippi exerts an equal influence in augmenting the number and steadiness of the winds which blow over it from the south-west; and here is another cause of difference in climate, chiefly perceptible first, in the temperature, which, if no counteracting cause existed, they would raise in the west considerably above that of corresponding latitudes in the east—and, secondly, in the moisture of the two regions, which is generally greater west than east of the mountains, when the south-west wind prevails, as much of the water, with which it comes charged from the Gulf of Mexico, is deposited before it reaches the country east of the Alleghanies.

Third—The great cities of Boston, New-York, Philadelphia, and Baltimore, are but a few feet above the level of the sea, and the country connected with them has but little elevation—while the towns which are rising on the banks of the Upper Mississippi, the Missouri, Wabash, Ohio, Cumberland, and Tennessee Rivers, are elevated about 500 feet above the surface of the ocean, and the intervening country about 250 feet more. The influence of this elevation, so often overlooked in comparing the climates of the eastern and

western states, would give cooler summers to the latter than the former, were it not for the greater prevalence of south-west winds in the region of greater elevation. To estimate the full effect of this superior elevation, it is necessary to refer to the increasing altitude of the immense unwooded plain down which the Missouri flows from the Rocky Mountains, which themselves rise to the varying height of 5, 6, and 7000 feet, and give to the western winds, which would otherwise arrive moist and temperate from the Pacific Ocean, a decided character of transparency and coldness.

Fourth—The west abounds in lofty forests, of far greater extent than the east—an element of difference in the climate of the two, the influence of which must be admitted, although its exact amount cannot, perhaps, be estimated. Forests are said to retard the velocity of the winds, and increase the precipitation of their moisture. It is more certain that in spring, summer, and autumn, they intercept the rays of the sun, most of which are thus reflected before they reach the surface of the earth, and copious evaporation is prevented. They seem, also, to promote the condensation of vapour, from the surrounding air; and may be considered as one of the causes of the more copious dews, which are said to fall west than east of the mountains.

Fifth—The general inclination of the surface of the Atlantic states is to the east and south-east—that of the Mississippi states to the south. Were these angles of inclination great, their effects upon the temperature of the two regions would be decisive; but being slight, the increased heat of the west, from this cause, is not perhaps very considerable.

Such are the leading causes of any differences of climate which may exist between the states which lie on the sea, and those on the Upper Mississippi, and its tributaries. These differences, especially in temperature, have been much dwelt upon, ever since the publication of Mr. Jefferson's celebrated Notes on Virginia, in 1781. But as it respects the heat of summer, they have been greatly overrated. Two causes have contributed to augment and perpetuate the error: First—The extensive popularity of Mr. Jefferson's Book. Secondly—The great number of emigrants from New England and New York, most of whom

have been unconscious how much they had changed their latitude in a migration to the interior, and have made reports concerning the heat of the latter, in the same language as if they had travelled on the latitudes in which they were born. As a general fact, the *settlers* from Virginia, in Kentucky, and from Maryland and Pennsylvania, in the states north of the Ohio River, have not complained of hotter summers than they had been accustomed to experience in their native land. It is probable, however, that the summer temperature of the west, is rather greater than that of the east, in corresponding latitudes; an effect, as far as it exists, to be ascribed chiefly to the greater prevalence of south-west winds in the former than the latter—and to the influence of the Allegheny Mountains, over which those winds must pass to reach the Atlantic states. Both these causes, however, are in a good degree compensated by the greater elevation of the interior, as already pointed out. So great is the effect of this elevation, that in the middle of the state of Ohio, where it is nearly 1000 feet above the level of the sea, the temperature is probably lower than in corresponding latitudes of eastern Pennsylvania.

To solve the problem of comparative temperature, accurate contemporary observations should be made on compared thermometers, placed under similar circumstances in a great number of situations; but this has not yet been done. The only points that admit of a comparison approaching to this, are Cincinnati and Philadelphia or its vicinity—the former, however, situated about 50' south of the latter.

From a series of daily observations in Cincinnati or its vicinity, for eight consecutive years, the mean annual temperature has been ascertained to be 54 degrees and a quarter. Dr. Rush states the mean heat of Philadelphia at 52 degrees and a half; Dr. Coxe, from six years' observations, at 54 and a sixth; and Mr. Legaux, from 17 years' observations, at Spring Mill, a few miles out of the city, at 53 and a third; the mean term of which results, 53 and a third, is but the fraction of a degree lower than the mean heat of Cincinnati, and actually less than should be afforded by the difference of latitude.

A reference to the temperatures of summer and winter, will give nearly the same results. From nine years' observations, (three at Spring Mill by Mr. Legaux, and six in

Philadelphia by Dr. Coxe,) the mean summer heat of that part of Pennsylvania, appears to be 76 degrees, and six-tenths. The mean summer heat at Cincinnati, for an equal number of years, was 74 and four tenths. The average number of days, in which the thermometer rose to 90 degrees or upwards, during the same period, was 14 each summer; and the greatest elevation observed was 98 degrees: all of which would bear an almost exact comparison with similar observations in Pennsylvania. Mr. Legaux states the most intense cold, at Spring Mill, from 1787 to 1806, to have been 17 and five-tenths degrees below cipher—while within the same period it was 18, at Cincinnati. The average of extreme cold for several years, as observed by Mr. Legaux, was one and eight-tenths of a degree below cipher: the same average at Cincinnati, was two degrees below. From all which, we may conclude, that the banks of the Delaware and Ohio, in the same latitudes, have nearly the same temperature.

The interior states have not only been declared much warmer than the eastern, in the same latitudes, but denounced as liable to sudden and extreme changes, in a degree entirely unknown in the latter. This opinion has perhaps, in part, arisen from the report of emigrants—who, upon settling in the *new* country, have had their curiosity awakened, and become, for the first time in their lives, attentive to natural appearances. They have then gone on to compare the sudden changes in the west, with those of the climate left behind; but which, unfortunately, they had never observed—and, of course, decide in its favor. The thermometers of the two countries indicate no material difference on this point, as appears from what follows. Mr. Volney states the annual range of the mercury, in Pennsylvania, on an average, at 100°. Mr. Legaux even makes it more. At Cincinnati, it is exactly 100°. The extreme range, taking the cold in one year, and the heat in another, in Pennsylvania, according to various authorities, is about 120 degrees; the difference in the west, in the course of 25 years, has not exceeded 116°. The difference between the warmest and coldest times of each day in the year, I have found, by comparing the manuscript journal of Mr. Legaux with my own, is at least as great on the Schuylkill as the Ohio. President Day has kindly furnished me with a statement of

this difference at New Haven, for two years—from which I find, that the daily changes from cold to heat, were about one degree greater at Cincinnati than at New Haven—but the opposite changes were two and a quarter degrees greater there than in Cincinnati. And at a short distance from the sea board, the difference would be still more striking. An inquiry into those sudden and irregular reductions of temperature, which are every where deprecated, would give results in no degree unfavorable to the west. No fall of the mercury at Cincinnati has ever exceeded 20° in an hour and a half, which Dr. Rush states to have taken place in Pennsylvania. The Doctor also asserts, that the thermometer has fallen 41½°; and Mr. Legaux saw it fall 47° in 24 hours—which is five degrees more than any depression ever observed in Cincinnati, in the same length of time. Finally, Dr. Rush declares that there is but *one* steady trait in the character of the climate of Pennsylvania—and that is, *it is uniformly variable.* From these evidences, to say nothing of others, I think the opinion that the climate of the west is more changeable than that of corresponding latitudes in the maritime districts, is proved to be without any sufficient foundation.

Let us recur to the winds, the great modifiers of climate in every country. I have already referred to the greater prevalence of south-west winds in the interior—of north-east and north west winds in the maritime states. Not having at hand the materials for an extended comparison, I shall insert a tabular view of observations made at Cincinnati, for six succeeding years, with so few omissions, that they amount to 4200. They have been brought to the eight principal points of the compass; and while they show the relative prevalence of different winds in the successive months of the year, will furnish data for comparisons between the western and eastern states, by those who reside and observe in the latter.

OBSERVATIONS.

Months.	S.E.	S.	S.W.	N.E.	N.	N.W.	E.	W.	Calm.
January,	6	2	13	8	1	21	3	6	6
February,	5	1	13	8	1	14	0	5	8
March,	10	1	16	11	1	10	0	5	4
April,	7	0	24	10	1	8	1	3	5
May,	7	1	19	10	0	10	1	4	6
June,	9	1	23	12	5	7	1	2	3
July,	6	1	19	11	2	11	1	4	4
August,	6	1	23	10	1	12	1	1	6
September,	6	1	23	9	0	8	2	3	3
October,	9	1	24	6	1	10	2	4	3
November,	9	3	13	6	1	10	2	7	5
December,	7	1	11	5	0	15	2	6	9
Total,	87	14	221	106	14	136	16	50	62

From this table it appears, 1. That the different winds of Cincinnati prevail in the following order:—South-west,—north-west,—north-east,—south-east,—west,—east,—south —and north. 2. That the south-west is the prevalent wind nine months out of the twelve, viz: from March to November inclusive. 3. That the N. W. wind prevails in January, December, and February. 4. That the greatest number of calm days are in December and February; the least in June' September, and October, which are equal. 5. That the southern are to the northern winds, as 322 to 256; or about 40 to 32. 6. That the western are the prevalent winds throughout the whole year; being to the eastern as 407 to 209, or nearly as 4 to 2. 7. That the west wind blows only half as much in the six warmer, as in the six colder months. 8. That the east, south, and north winds are nearly equal.

Most of these deductions are exhibited by the following table; in which the whole number of observations, stated above, are supposed to be represented by 1000, and the subsequent numbers to be its fractional parts.

MEAN OF 6 YEARS OBSERVATIONS,

1000, of which the		South-east make - - -	122
"	"	South, - - - - - - -	19
"	"	South-west, - - - - -	313
"	"	Southern, - - - - -	—454
"	"	North-west, - - - -	192
"	"	North, - - - - - - -	19
"	"	North-east, - - - -	150
"	"	Northern, - - - - -	—361
"	"	South-east, - - - -	122
"	"	East, - - - - - - -	22
"	"	North-east, - - - -	150
"	"	Eastern, - - - - -	—294
"	"	South-west, - - - -	313
"	"	West, - - - - - - -	70
"	"	North-west, - - - -	192
"	"	Western, - - - - -	—575
"	"	Calm, - - - - - - -	87

A brief sketch of the character of the principal winds embraced in these tables, may be useful to those who propose to emigrate to the West.

1. *The South-West.*—This wind, which, as we have just seen, prevails on the Ohio three-fourths of the year, exhibits two different characters, or is divisible into two varieties—the *humid* and the *arid*. The former of these is characterized by prevailing throughout the night; by generally continuing two or three days after its commencement; by alternating with the north-east wind; by sinking the barometer more than any other aerial current; and by always causing clouds and generally rain which is often profuse. The arid south-west commences between sunrise and ten o'clock in the morning. It is at first very gentle, and increases in force with the progress of the day until four or five o'clock in the evening, when it begins to subside. About sun-set it ceases, and the succeeding night is clear and serene. This is the predominant wind in the hottest and dryest weather, with which indeed it is identified in the mind of every observer in the West. Its prevalence, in comparison with the other variety, is perhaps as eight or ten to one. It is seldom attended with an atmos-

phere altogether cloudless, but never produces any other form of rain than a thunder shower. It sinks the barometer less than the humid south-west, but raises the thermometer higher than any other wind. It is not known whether at present it prevails more or less than upon the first settlement of the western states.

2. *The North-West.*—This wind, like that already described, exhibits two varieties, one of which occurs in warm, the other in cool weather. A state of calmness, or the dry south-west, generally precedes and follows the former of these varieties. It is the gale which attends thunder storms; and of course commences to the windward. Its duration is transient, seldom continuing longer than a few hours, and its geographical extent is equally limited. The other, which is the principal variety of north-west wind, begins, it is well known, to the leeward; it generally succeeds rain, and may be regarded as the harbinger of fair weather. In spring and autumn, however, it is frequently attended with moderate showers, which seldom continue more than a day; and in winter it produces snows, that are sometimes among the deepest which fall in the valley of the Mississippi.

In common, it does not exhibit any nocturnal intermission, though for the most part it blows with less violence at night than in the day. It is generally followed by a calm, which is succeeded by the south-east or south-west wind. It frequently undergoes a change into the north-east, blowing from every intermediate point of the compass. On the barometer and thermometer it produces effects opposite to those of the south-west wind. The greatest elevation of the former, and depression of the latter of these instruments, hitherto observed at this place, were during the prevalence of this wind. The longer it continues, the lower is its temperature; and when it is not too much reduced, it feels as pleasant, as it is uniformly pure and invigorating.

3. *The North-East.*—This current, by ascending the St. Lawrence, *may* reach Cincinnati without passing over the Alleghanies: but it generally traverses those mountains, and deposits on them, as already stated, a part of its humidity, as appears from its seldom producing *much* rain or snow along the Ohio. Except, however, when it succeeds to the moist south-west, and follows a storm, this wind constantly produces one of them, or at least cloudy weather. In temperature and weight, it holds a medium between the

south-west and north-west. It sometimes continues to blow for a week after a south-west storm, during which the sky will be perhaps nearly clear. It is invariably moist, and produces in all exposed to it, the sensation termed *rawness;* though in a much less degree than in the Atlantic states.

4. *The South-East.*—This partakes much of the character of the humid south-west, for it raises the thermometer and sinks the barometer in a moderate degree. It is always damp and generally produces rain or snow. It frequently succeeds to the north-west, and is then for the most part attended with a clear sky.

5. *The West.*—This is generally a cool and rapid wind. From the region it traverses in reaching this place, it must necessarily be dry and enlivening. In the winter, when it continues long enough for the air of the Oregon or Rocky Mountains to arrive, it produces intense cold, sinking the thermometer sometimes below cipher.

6. *The North, East, and South.*—These winds do not prevail, respectively, more than one week in each year. The first seems to possess most of the qualities of the north-west; and the second of the north-east; the third appears to be a modification of the humid south-west, and is always stormy.

In regard to the weather, on the Ohio, the following table setting forth the results of 4268 observations, will afford sufficient information for the general reader. Observations made in other parts of the Upper Mississippi states, would, probably, give nearly the same proportions of clear and cloudy weather.

	Clear Days.	Cloudy Days.	Variable Days.
1	180	107	68
2	158	112	91
3	187	78	85
4	152	106	107
5	185	111	68
6	172	112	74
Mean terms, . .	172.33	104.33	82.16

From these results, it may be expected, that of the 365 days in the year, about 176 will be fair, 105 cloudy, and 84 variable.

The condition of the weather, in each month of a mean

year, for the above period, is exhibited in the following statement:

	Clear Days.	Cloudy Days.	Variable Days.
January, ...	9.8	13.1	7.8
February, . . .	10.3	12.0	6.5
March, ...	13.5	9.1	8.3
April, ...	13.1	10.8	7.6
May, ...	15.0	8.5	7.5
June, ...	15.5	5.0	9.6
July, ...	19.0	5.5	6.0
August, ...	19.6	4.6	6.5
September, . . .	19.5	5.3	6.1
October, ...	16.1	6.0	8.1
November, . . .	9.5	13.5	5.5
December, . . .	9.6	14.1	5.8

From this table it appears, that July, August, and September, have the greatest, and each about an equal number, of fair days; that October, June, and May, compose the next class; to which succeed the months of March and April, followed by February, December, January, and November; that in the four latter months there is the greatest proportion of cloudy weather; that next to these rank April, March, and May, succeeded by the remaining months which are nearly equal. Lastly, that in the number of days which are variable, according to the sense in which that term is here employed, there is among the months no great difference.

The quantity of water in the form of rain and snow, which falls annually in the West, has not been accurately ascertained. It is probably, about thirty-six inches, and nearly the same as in corresponding latitudes east of the mountains. Taking the mean of a series of years, it is found that in April and May there falls the largest quantity; next to these are November, March, December, July, and October, succeeded by January, August, February, September, and June. The same months, in different years, afford very different quantities of rain. September has been observed to vary in this respect, from less than an inch to more than five; October from half an inch to eight; and April from two to nine. The spring rains are sometimes excessive, and protracted for eight or ten weeks; during which there are showers perhaps, on an average, every

third day. During the spring of 1813, there fell upwards of sixteen inches; four times the quantity which fell in the ensuing four months. At other times, this state of things is reversed. In the spring of 1814, there fell not more than nine inches; and in the three subsequent months, the quantity was equal to fourteen.

Every irregular distribution of the spring and summer rains, is of course prejudicial to agriculture. The copious and long continued storms of the former season, now and then check the early growth, or even prevent the planting, of many important vegetables. To these rains such dry summers occasionally succeed, that the pastures are consumed, the leaves of the Indian corn become curled, and those of many forest trees, in dry situations, die and fall off before the usual time. But, fortunately, such extraordinary droughts occur too seldom, and are too limited in their extent, to be regarded as any great calamity.

From the Valley of the Tennessee River, to the summit level, between the lakes and the waters which flow into the Ohio, the snows become deeper and deeper. In Tennessee they seldom exceed a few inches—in the centre and northern parts of Ohio and Indiana, they sometimes, as was the case in the winter of 1830–1, fall to the depth of two feet. North of the Ohio river the snows are deeper in proportion to the latitude, than they are on the opposite side; which is owing perhaps to two causes, first, the greater elevation of the interior of Illinois, Indiana, and Ohio; secondly, the vicinity of the lakes. At Cincinnati, the deepest snow which falls does not exceed a foot; but one third of that depth is a more common maximum for the winter. This being the case, and periods of mild weather with rain occurring frequently, in almost every winter month, the ground is seldom covered for any great length of time. Severe winters, however, have occurred a number of times, in which the same snow has continued on the ground for several weeks, during which the Ohio was bridged with ice from its sources to its mouth. This happened as far back as 1798, and was repeated as late as 1831–2, showing that no particular change of climate has yet taken place in the West.

More snow probably falls east of the mountains than west below the latitude of 40°—above that parallel, the difference is not perceptible. This can be easily explained.

In the maritime states, every eastern wind, in winter, almost of necessity brings snow, as it transfers the atmosphere of the seas, over the colder surface of the continent. In the West, the great lakes supply, in this respect, the place of the Atlantic Ocean, and augment the depth of the snows, for two degrees to the south of their shores.

The fogs of the western rivers are said to be denser, than those of the eastern, but additional facts are necessary to an accurate estimate.

In tornados, hail-storms, winter thaws, and floods, summer frosts, premature springs, anticipating autumns, and other anomalies, the climates of the East and West, in the same latitudes, seem not materially to differ.

In the interior states, the pleasantest travelling and emigrating months, are April, May, and June; September after the equinox, the entire month of October, and the first half of November. The vernal travelling season, is more showery than the autumnal, but from the fulness of the rivers and the lively green of the forests and fields, more cheerful. The autumn is smoky, dusty, and often deficient in water, but serene, equable in temperature and decorated with leaves of every tint, which present the traveller of taste with an untiring succession of picturesque and beautiful views.

DISEASES.

1. *Of the warm Mississippi States.*—The diseases of this portion of the great Valley, are few and prevail chiefly in summer and autumn. They are the offspring of the combined action of intense heat and marsh exhalation; and prevail, especially in the vicinity of water courses, ponds, lagoons, and marshes. The population of the villages and country generally, are visited by remitting and intermitting bilious fevers. New Orleans and Natchez are infested with the same maladies, particularly, the former, and experience, in addition, occasional attacts of yellow fever. To the whole of these diseases the natives, both Creole and Anglo-American, are much less liable, than emigrants, who must, in general, undergo a seasoning, which in sickly situations is apt to be repeated; and often proves fatal, or greatly enfeebles the constitution, by producing chronic inflammation of the liver or enlargement of the spleen, terminating in jaundice, or dropsy; and greatly disordering the digestive organs.

Inflammation of the liver, both acute and chronic, is, indeed, an exceedingly common malady in this region; and in a great degree, replaces those affections of the lungs, which are so fatal in the North, and so rare in the South. When an individual finds himself subject to an annual attack of fever, or seized with inflammation of the liver, the chronic varieties of which are sometimes extremely insidious, his only safe resource is a yearly migration to the north, in the month of April or May, where he should remain till October. Should he resolve to defy the climate, he will probably fall a victim to his temerity. The much dreaded yellow fever, as it but seldom returns, and is nearly limited to the larger towns, carries off but few persons, compared with the maladies just named; but its victims are chiefly selected from the emigrant population. When it breaks out, none who are not acclimated should venture to remain within its reach.

Those who migrate from a colder climate to the southern Mississippi states, should observe the following directions. First—To arrive there in autumn, instead of spring or summer. Second—If practicable, to spend the hottest part of the first two or three years, in a higher latitude. Third—To select the healthiest situations. Fourth—To live temperately. Fifth—To preserve a regular habit. Lastly, to avoid the heat of the sun from 10 in the morning till 4 in the afternoon, and above all the night air. By a strict attention to these rules, many would escape the diseases of the climate, who annually sink under its baleful influence.

Were the other portions of the year in these southern climates as insalubrious as the summer and early autumn, the destruction of human life would be frightful; but, happily, no region on earth is healthier for eight months of the year, than that which we are now considering. During this period, there is, it is true, some disease; but it is chiefly that which was generated in the hot season. The latter part of the autumn, and the entire winter and spring seasons, originate fewer maladies than in almost any other part of the Union. Thus it is, that the balance between liabilities and exemptions is maintained, and the wisdom and goodness of Heaven practically manifested.

2. As we advance northwardly, and at the same time ascend on the great inclined plane, which extends from the

Gulf of Mexico nearly to the shores of the lakes, the diseases constantly become more diversified, and more equally distributed throughout the year. The intense and steady heat of a protracted summer, is replaced by a variable temperature, with a greater diurnal range of the thermometer. Spring and autumn bring a rapid succession of hot, or at least warm, and frosty days. The northern and southern winds come into perpetual conflict, and neither predominates very long. The winters lengthen, and the cold becomes intense—but still, on the banks of the Ohio, and up the Mississippi to the mouth of the Missouri, thaws and warm rains, with south-west winds, occur more or less in every month, from November to March. It is not till we pass the latitude of 40°, that the empire of frost in winter is tolerably established. Beyond that degree, the cold of winter is about as steady as is the heat of summer below the latitude of 34°. Between these two parallels, neither summer nor winter has much constancy.

Thus the temperate, or Upper Mississippi states, are far more infested with the maladies which depend on variations of temperature, than the southern division; and from the autumnal to the vernal equinox, are much more unhealthy. If the other, or the hot portion of the year, in this northern division, was exempt from the diseases depending on great heat and marsh exhalation, the boast of its inhabitants, when comparing their lot with that of their southern friends, would be better founded than it is. But along all the streams, more especially those which have alluvial bottom lands, which are annually overflown, and where the forests and original vegetation have been but partially subdued, the inhabitants are liable to the summer diseases of the south—some of which, as cholera and dysentery, seem to be more frequent and violent than towards the Gulf. Others, however, as the numerous varieties of bilious fever, are incomparably less general and malignant.

From these observations it may be collected, that the two great causes of disease in the Upper Mississippi, or western states, are variations of temperature and marsh exhalation. A third cause is supposed to be the water. Throughout most of these states, which have a limestone foundation,—the imperishable basis of their wealth,—the spring and well water is hard. This, by those who have lived elsewhere, is

sand-stone regions, or on *primitive* or *transition* rock formations, where the water is soft, is believed to be unhealthy. To them, it may indeed prove so at first, but their systems soon become reconciled to the change; and I have not, as yet, seen any evidence that this kind of water produces a single permanent disease. In the fourth place, the question is often asked, are not fogs unhealthy? Do they not produce ague and fever? The answer, I think, should be in the negative. I have not observed, that those who are constantly exposed to them are more unhealthy; or, indeed, as unhealthy as many others in society, who are not exposed to them. Fogs are but water in a state of vapour, through which exhalations of a poisonous nature may, it is true, be diffused; but these exhalations, sent up from the surface of the earth through the day, appear to subside in the evening with the dews, before the fogs begin to arise; and hence, an exposure to the former, is far more dangerous than the latter.

Passing from causes to effects, I shall proceed to enumerate the principal diseases which seem to have connexion with the soil and climate of the west.

In autumn, winter, and early spring, the pleurisy, severe colds, croup, and those forms of disease of the lungs, which have received the name of "hasty consumption," are of frequent occurrence. True, hereditary consumption is, however, a rare disease in the west, compared with New-York or New England—and families which, remaining on the banks of the Hudson or Connecticut River, would be cut off by that malady, might often be preserved, by a migration to the Valley of the Ohio, the Cumberland, or Wabash. Acute inflammations of the brain, of the liver, and of the joints, in the form of rheumatism, are, likewise, of frequent occurrence, during the cold and variable portions of the year.

From the accession of hot weather, commencing in Tennessee with the month of May, and on Lake Erie with its close, till after the autumnal equinox, summer diseases prevail over all the west—but are most rife in the valleys, and above all on the shores of the lake. These maladies may be divided into two groups: First, cholera infantum, or the summer sickness of children—cholera morbus, diarrhœa, colic, and dysentery. The first of these complaints, in the west, as in other parts of the United States, is more fre-

quent and fatal in the towns than the country; though the latter is by no means so exempt as is generally supposed. Dysentery is not of constant annual recurrence. Many summers pass without originating a single case—while others produce it as an epidemic, spreading indiscriminately over the hills and vallies, and affecting equally the dense and sparse population.

The family of diseases, just enumerated, precede and follow the summer solstice; but, with the exception of dysentery, rarely run into autumn. They are the legitimate offspring of hot days and cool nights, and almost invariably display the greatest violence in June and July.

Secondly. To the summer, succeed the autumnal diseases of the west, which are, substantially, the same that prevail in the south. They often begin in summer, and very commonly continue till arrested by the frosts of autumn. These maladies are intermitting and remitting bilious fevers—the former of which, in their various shades, have received the names of 'ague,' 'dumb ague,' and 'chill and fever.' The intermitting fever is essentially a disease of the country, instead of the larger towns; and prevails much more in the vallies, and on the slopes of the hills that bound them, than on the uplands. Its relative prevalence in different years is very different. It often graduates into the remitting fever. This is the most formidable of the summer and autumnal diseases of the west; and, in some seasons, appears with a degree of malignity approaching to that which it displays in the south. Unlike intermitting fever, it prevails as much or more in the towns than in the country. In most years, it is a mild and manageable disease; but sometimes, as just intimated, proves exceedingly fatal—which may be the case in one town, while others are but little affected; and in another year the case will be reversed.

When this malady becomes protracted, it commonly passes into ague and fever. In this form it frequently recurs through the winter and succeeding spring, when relapses of intermitting fever are, likewise, apt to occur. They are generally the immediate consequence of exposure to a cold and damp atmosphere.

A form of winter or relapsing intermittent fever, is 'periodical head-ache,' or 'sun pain,' so called by the people, from

the well known fact, that the fit generally comes on in the morning about sun-rise, and seldom continues after sun-set. It is a painful, but not a dangerous disease.

Sore eyes may be mentioned as a prevailing disease of the western states. They are more common in the newly than the old settled parts of the country; and prevail more in autumn than any other season. Treated even by a skilful physician, they often prove obstinate; and, neglected or improperly managed, are frequently followed by blindness.

In several parts of the west, a disease prevails, which has received the appellation of 'sick stomach,' from its prominent symptoms, nausea and frequent vomiting, especially on taking exercise. It is, also, called 'milk sickness,' from an opinion, that it is produced by the milk of cows, which have fed on some poisonous plant. It has likewise been ascribed to the water of certain springs, and to marsh exhalations. The cause, however, is perhaps unknown, and it seems to be evanishing.

Goitre, or 'swelled neck,' once prevailed on the upper waters of the Ohio, particularly in and about Pittsburg, but has nearly disappeared.

Typhus, or nervous fevers, are sometimes considerably prevalent in the western towns; but, on the whole, are, I think, less frequent and fatal than in the east.

Dyspepsia, and liver complaints of a chronic kind, are troublesome maladies in the Mississippi states, especially in the cities. In many cases, they have seemed to me to arise from the same cause with autumnal fever, the poison acting feebly on the system; but more commonly they are the offspring of abuses in the use of tea and ardent spirits.

As to measles, small-pox, scarlet fever, and other diseases of that natural class, they prevail occasionally in the west, in the same manner as in other countries.

Let not the eastern reader be alarmed, at the catalogue of diseases which I have enumerated. He should recollect that most of them prevail in his own section of the Union, and often with great mortality; while some, as consumption, and I might add typhus fever and dysentery, are far more fatal in the east than the west. Nor should the Lower Mississippi states be considered preferable to the Upper, on the score of health; for, although they are sickly but four months of the year, yet such is the extent and energy

of the diseases which then prevail, as more than to counterbalance the whole year in the temperate states.

That these states are not unfavorable to human life, may be inferred from the unprecedented increase in their population. The number of inhabitants in Tennessee, Kentucky, Missouri, Illinois, Indiana and Ohio, is at least three millions. Had they been *unhealthy*, it is quite incredible that in the short period of half a century, so great a number could have congregated within those commonwealths. Was the climate especially fatal to emigrants, the number cut off, and the number repelled, must have given a ratio of increase, far beneath that which has actually existed. As to a seasoning, or acclimation, I am doubtful whether in the temperate Mississippi states, it has any existence. At Cincinnati, I am sure it can seldom be perceived. When formidable and fatal diseases have prevailed, they have as often attacked those long resident in the city, as the 'new comers;' and nothing is more common, than to see persons arrive at all periods of the spring, summer, and early autumn, and still enjoy as good health as if they had entered its atmosphere at the winter solstice. I would, however, caution travellers and 'movers,' against much journeying in September and early October, when bilious fevers prevail; for, however secure they might be, if they could be transferred, without a journey, to a western town, the usual process of reaching it in autumn over land, the necessary mode when the waters are low, is apt to generate serious diseases.

CHAPTER IX.

Indian Tribes, Monuments, &c.

Having in the last Chapter remarked on the Climate of the Valley of the Mississippi in reference to Temperature, Diseases, &c. I now proceed to give some account of the Indian inhabitants, their manners, customs, present state, &c. together with some notices of those ancient remains which are still to be found in almost every part of the West.